Alternatives for the management of biomass resources on common lands in the hill districts of Uttar Pradesh, India

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CHAPTER 1

Introduction

Only 19.51% (64 mha) of India's of total geographical area is under forest cover. Of this 37.8 mha (59%) of the forest has a crown cover of over 40% and the remaining 26.2 mha (41%) has less than 40% crown cover. In addition, about 80 mha is under various categories of degraded lands with poor or no vegetation cover. With the population of India approaching one billion, productive and sustainable use of the country's natural resources is essential for the country's social and economic welfare. Also hundreds of millions in rural India are dependent on these for fuel, fodder and minor forest products.

Considerable efforts and large investments have gone into reforestation and watershed management programs. Unfortunately, these efforts have not been able to ease the pressure on the forest resources. A major reason for their failure is the lack of attention to tenure issues and conflicts over usufruct and protection rights of rural forest communities It is also felt that indigenous management systems have gradually ceased to function. As these systems collapsed, open access and overuse has led to resource degradation. In the face of increasing demands on the forests and lack of any alternative control mechanisms, common lands have lost most of their vegetative cover and now produce little fodder and fuelwood, while dependence on forests has increased with increasing population.

In view of the alarming decline of forest cover on village common lands and its impact on the society who depend on it, the issue of managing the common property resources has become an issue of concern for researchers and policy-makers The alternate management strategies have to be developed to address the problem of alarming decline of natural resources particularly on common lands. As a prerequisite to this, efforts are being made to understand the existing institutional forms of management of common property resources and to identify conditions that aid or retard their functioning. The present study on the

functioning of *Van Panchayats* in the hill districts of Uttar Pradesh state in Northern India, is an effort in this direction.

1.1 Background

The total geographical area of the hill districts (eight in number) in the state of Uttar Pradesh is 51,12,500 hectares of which the total forest area is 34,39,900 hectares, about 67.28%. According to the recent census the total human population in these districts is about 5.9 million. Of the total forest area in the hills, a major portion, 23,75,500 hectares, almost 70% is under the control of Forest Department. The rest is under the Revenue Department's authority, which is again classified as Civil and Soyam Forests and Panchayat Forests. The total area of panchayat forests is around 2,44,800 hectares, i.e., only 7.2% of total forest area. District Pithoragarh has the largest area under panchayats with 25% of total area as *Van Panchayats* and district Almora has the second largest area under *Van Panchayats* having 21% of the total forest area. But Almora has the largest number of panchayats under its jurisdiction with 1709 panchayats and district Pithoragarh comes next with 1039 panchayats.

The management of forests on the village common lands by the villagers, through a body elected solely for this purpose, is a unique system prevailing in the hills districts of Uttar Pradesh. This elected council of villagers is called the *Van Panchayat* and it functions as a parallel body to the *Gram Sabha*[1]. The responsibility of managing village common lands and of monitoring the resource utilization by all the villagers equitably is entrusted with this body.

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[1] Though running in parallel, these bodies do not essentially have the same villages as their members. There may be a single village *Gram Sabha* which is a part of a multi village *Van Panchayat* or a single village *Van Panchayat* is a part of a multi village *Gram Sabha*.

1.2 Objectives

The major objectives of the research were

1 To study the management of common lands by the local organizations including, production of fuelwood and other biomass, marketing of produce, financial, and organizational (relating to organization structure) aspects.
2 To identify the benefits that have accrued to the community in the vicinity of forests managed by the local organization
3 To analyze the process of participation and identify patterns, if any.

1.3 Scope of the study

Management at the local level has been studied in detail so as to find out their impact on the forests on common lands and the extent of benefits that the local communities in the vicinity derive from these resources. Focus has been on the ability of these locally managed forest resources to fulfill the basic needs of fuelwood and fodder of the communities dependent on them The study has focused largely on *Van Panchayats* in Almora district and to a lesser extent on those in Pithoragarh district

Specific *Van Panchayats* have been chosen for conducting case studies to provide insights into the management of *Van Panchayats* under different resource conditions An attempt to estimate the gap between the consumption of fuelwood and fodder by the villagers and the supply from the locally managed forests on the common lands has been made in these case studies. This gap and the resultant stress on the forests give a valuable insight into the management aspect of the *Van Panchayats*. The case studies also look into the practical problems that the panchayats face in managing these forests and the suggestions provided by the local communities to manage them in a better way. The estimates of demand and supply of fuelwood and fodder have been arrived at by means of primary surveys as well as biomass estimation surveys in the villages. Also the organizational setup pertaining to the *Van Panchayats* has been studied to understand the legal arrangements and the bureaucratic setup regarding the *Van Panchayats*

Chapter 2 explains the approach adopted in this study and the methodology used by which the primary surveys - both for consumption/demand estimation and biomass estimation (supply) -were carried out. Chapter 3 deals with the secondary data collected regarding the *Van Panchayats* and its analysis. The organizational structure and the financial situation of the *Van Panchayats* is described here. A brief history of evolution of *Van Panchayats* is presented. Chapter 4 looks into the case studies of specific *Van Panchayats*, that were conducted. Issues related to the functioning of *Van Panchayats* are presented in the light of a comparative analysis of all the case studies through various parameters. The conclusions from the study and recommendations to make these institutions function in a better manner have been discussed in Chapter 5.

CHAPTER 2

Methodology

The project has been undertaken in three phases In the first phase, information and data from secondary sources was collected and an exploratory field visit was made. The second phase involved visits to *Van Panchayats* where the case studies were carried out for gathering primary data and information The third phase conducted simultaneously with the other two phases comprised of data analysis, completion of case studies and report writing.

2.1 Information and data from secondary sources

The secondary data was collected from the district headquarters of Almora and Pithoragarh districts The record room of the Revenue Department at the District Magistrate's office provided information regarding total number of *Van Panchayats* under each tehsil of the district along with their names, date of formation, area and major species found in the forests The records of formation process of all the *Van Panchayats* were a valuable source of their history The records with the Forest Clerk revealed information regarding the newly formed and suspended *Van Panchayats*, the number of elections held in each tehsil and the number of elections due, viable and nonviable *Van Panchayats*, extent of encroachment, instances of fire, illicit lopping and other offenses in each tehsil The Forest Department records gave information on timber and resin yield Discussions were held with the District Forest Officers regarding the study, its scope and selection of *Van Panchayats* for casestudies Valuable insights were gained from these discussions.

The literature review, and the information and data from secondary sources was used to understand the evolution of *Van Panchayats*, their present organizational structure and their financial and management status. The data was also analyzed for selecting the case study sites The data from revenue and forest departments were collated to understand the productivity of these forest lands in terms of recorded resources

2.2 Sample selection

In the second phase, *Van Panchayats* where case studies were to be conducted were identified. The case study method was employed for the project as it was felt that this would provide a greater insight into the functioning of these institutions. Further, since these institutions are run by the people themselves, their views on organizational and management structure of *Van Panchayat* are important.

After examining the secondary data available we decided to use date of formation and area of forests as criteria to select the *Van Panchayats*. Firstly, the total list in a district was arranged according to different area of forest into three categories of forests, small <175 ha, medium 175-350 ha and large >350 ha. These categories were selected after looking at the distribution of panchayats according to area. Then from each category ten panchayats were selected having different dates of formation[1]. The tree species predominant in the forest was also considered. The final selection of panchayats was done in consultation with the Forest Department officials who were consulted regarding the altitude of the *Van Panchayat* and its accessibility[2]. The sample was selected mostly from Almora district and one *Van Panchayat* was studied[3] from district Pithoragarh.

Again it was decided to study the Panchayats with different dates of formation.

Originally we had proposed to use altitude and availability of per capita land for human and cattle population as criteria for selection of Van Panchayats. However, the necessary information on altitude, villages falling in a Van Panchayat, cattle population for recent years was not available in the secondary sources. Ideally, the criteria for selection should in some way reflect the productivity of the land. As pointed out later in the report, the information regarding the area of Forest Panchayats and production from them is maintained by two different departments and in different forms and these two could not be correlated for a large number of Forest Panchayats due to discrepancies in names. However this was nullified to some extent by considering the major tree species in the forest.

Though the sample surveyed (six in number) is very small when compared to the total number of Panchayats in the hill districts, it is felt, in retrospect, that it was adequate to develop insights about the functioning of *Van Panchayats*.

2.3 Primary surveys

The case studies were carried out in three different components. The first component was to estimate the consumption of fuelwood and fodder by the rightholders[4] in the *Van Panchayat*. The second component was to estimate the sustainable supply of fuelwood and fodder that forests of the *Van Panchayat* could provide The gap between the supply and demand was calculated as the stress on these forests. The third component purported to the study of management system of *Van Panchayats*. This also included the perceptions of local people and participation of women

The first and the third component were done through a questionnaire survey Three different sets of questionnaires, one each for consumption of biomass, management issues, and legal and organizational issues were designed to cover all the aspects of the study. While the questionnaires pertaining to the legal and organizational issues were administered only to the *Sarpanch*, *Gram Pradhan* and school teachers, the questionnaires on biomass consumption and management issues were administered to the rightholders

Survey for consumption of biomass

The data from secondary sources provides information on timber and resin from a *Van Panchayat*. Other major and subsistence related enduses of biomass in the hill districts are fuelwood for cooking and fodder for the cattle that the people rear. The surveys were carried out in the village(s) that the respective *Van Panchayats* catered to In the case of a single village *Van Panchayats* (Sirauli, Malladesh), about 25% of the village population were interviewed whereas in the case of multi-village *Van Panchayats* (Phulai Jageshwar, Vijepur), about 10% of the village population from each of the member villages were interviewed. The respondents were selected randomly from all classes in the village for which either the *Gram Pradhan* or the *Sarpanch* was consulted.

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[4] The right holders in a *Van Panchayat* are those people who have the rights to the forest resources from that particular forest

Fuelwood

The questionnaires for fuelwood consumption were designed so as to provide an overall scenario about the fuelwood situation in the area. In addition to the amount of fuelwood consumed by the household, the respondents were queried regarding the distance that the people have to travel to collect firewood and from which category of forest. They were also asked about the pattern of firewood collection i.e., the number of days of collection in a week and in different seasons. Their views regarding the status on the availability of firewood along the years was also recorded.

The respondents were able to give their estimate of consumption in terms of bundles or headloads of firewood that they collect and use. Thus the data obtained was the number of headloads consumed during specific time period (days) in three different seasons. The headloads were weighed and consumption of fuelwood per capita per day for each family was calculated for all three seasons. The consumption in each season was averaged over all the families and a norm for average per capita per day consumption of firewood throughout the year by the people of the area was generated.

The formula for arriving at the normative value of firewood consumption is as follows

$$F_w = \left(\sum_{i=1}^{n} \frac{a_i}{M_i} + \sum_{i=1}^{n} \frac{b_i}{M_i} + \sum_{i=1}^{n} \frac{c_i}{M_i} \right) \times \frac{1}{3n} \times \frac{365}{1000} \ tons/yr\text{-}person$$

where,

M = number of family members in the family

a = consumption of firewood by the family in summer (kgs/day)

b = consumption of firewood by the family in winter (kgs/day)

c = consumption of firewood by the family in monsoon (kgs/day)

n = number of families

This norm was then used to calculate the total annual consumption of firewood by the population of the right-holders dependent on the forests of *Van Panchayat*

Fodder

The livestock population of this region comprises mainly of cattle and goats The fodder for the cattle in the area comes mainly from two sources i e forest biomass and agricultural crop residue The biomass obtained from the forests is in the form of leaves (of Oak and other broad leaved species) and grasses These products are available at different times in the year and the villagers also store them The persons interviewed for the consumption of fuelwood were also interviewed regarding fodder consumption by animals that they rear

The questions pertained to amount of fodder that they fetch from the forest of Panchayat Forests in addition to the type of fodder available at different times of the year and the money they have to pay for it (if any) Their views regarding the difference they felt in the availability of fodder from earlier times were also noted Here too, the villagers were able to tell the amount of fodder fetched and consumed by the livestock they own in numbers of headloads The headloads were weighed and consumption of fodder per animal head per day was calculated for all the seasons The consumption in each season was averaged over all the families and a norm for average per unit per day consumption throughout the year of fodder by the livestock of the area was generated

The formula for arriving at the normative value of fodder consumption is as follows

$$F_d = \left(\sum_{i=1}^{n} \frac{a_i}{A_i} + \sum_{i=1}^{n} \frac{b_i}{A_i} + \sum_{i=1}^{n} \frac{c_i}{A_i} \right) \times \frac{1}{3n} \times \frac{365}{1000} \quad tons/animal\text{-}day$$

where, A = number of animal units in the household surveyed
a = consumption of fodder per day in summer (kgs/day)
b = consumption of fodder per day in winter (kgs/day)
c = consumption of fodder per day in monsoon (kgs/day)
n = number of families surveyed

This norm was then used to calculate the consumption of fodder by the total livestock* of the right-holders dependent on the forests of *Van Panchayat*.

However, since the cattle in these parts also consume crop residue as a major part of their feed, study of the agriculture production system which provides crop residue was also carried out. The cropping pattern and area under a crop was collected from the primary surveys and was used to calculate the approximate total residue production from the total agricultural land. This gave an idea about the contribution of the agricultural system to the fodder consumption.

Estimation of availability of biomass

The estimate of availability of fuelwood and fodder from the forest was arrived at through a growing stock estimation survey which involved partial enumeration by topographic units. Similarly the productivity of grass from these forest was estimated by extrapolating the results of partial measurements in the identified grass patches.

Availability of fuelwood and fodder

Growing stock estimation was done on the basis of partial enumeration by topographic units. This method has been used successfully in hill forests in preparing forest working plans for several decades. A topographical unit is defined as a sampling unit whose boundaries are predominantly topographical or natural features such as nullahs, streams, ridges, etc For the present study, although natural boundaries were adhered to as far as possible, even artificial demarcations like roads were used

A reconnaissance survey was first done to roughly divide the forest under examination into maximum possible strata on the basis of dominant species present An estimate of the percentage distribution of the forest types by dominant species was then made. One good method to

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* It has been [illegible] that the grasses and leaf fodder that are harvested are consumed the same day. The livestock population of the member villages was taken from the records of *Patwari* [illegible] the census data for the area

attempt such classification is to climb on a ridge opposite to the one under study and attempt a broad classification on the basis of ocular observation of canopy distribution. This is followed by an exhaustive actual traverse through the forest. The blank areas are noted and the rough percentage distribution estimated earlier is further refined. Having fixed the percentage distribution, each forest type was divided into maximum possible topographical units Four topographical units, of varying size were randomly selected in each forest type The area of the selected topographical units was found by the method of triangulation It must be noted, however, that the number of topographical units selected in each forest type should be about one-fourth to one-third the total number of topographical units in that forest type In no case should the number of topographical sampling units be less than two The area of a single unit should not be less than 0.1 ha In selecting the topographical sampling units in the present study, care was taken to neutralize the variations due to altitude, aspect and slope

For the actual enumeration of trees in the selected sampling units, a team of trained workers was utilized A line of men with tapes were made to move from one edge of a topographical sampling unit towards the direction of a clear demarcation like a ridge or a stream. A worker, entrusted with the task of recording data, moved in front of the line. It is recommended that the line of men move along the contour, as far as possible Still better would be to move downhill between two boundaries, if the width is small enough to be completed in one trip and the team is not required to turn back uphill The two persons at the extremes of the line carried "*geru*" paste while those in between carried white chalk to mark off the trees, once they are measured The line of men should never be so long that the extreme persons lose sight of each other. Normally, the number of trees in a strip will be about 10 to 12 Girth measurement was done at breast height (1 37 m), and recorded in 30 cm girth classes. In every topographical unit, about 3 to 5 tallest trees were measured for height of major species present, using Haga's altimeter.

In estimating volume, the product of basal area, height and form factor was computed. For Pinus roxburghii, Quercus leucotricophora and Rhododendron arboreum the average height of five tallest trees of each species in a sampling unit was taken. For other species the average height of 3 m was used for medium and small trees like Pieris ovalifolia, Myrica nagi, Alnus nepalensis, Pyrus pashia, etc., a mean height of 1.5 m was considered sufficient for other miscellaneous small trees and shrubs like Crataegus crenulata, Cornus capitata, Cotoneaster bacillaris, Prunus cerisoides, etc. A form factor of 0.5 was used throughout for all species. This factor is reasonable in the light of the fact that form factors of most of the trees considered, as obtained from volume regression equations for these species, range between 0.38 to 0.61.

The formula for estimating the volume of different species in the forests surveyed is as follows

$$V_{jkp} = \left[\sum_{i=1}^{n} \left(N_{ijkp} \frac{G_{ijkp}}{4\pi} \right) \times H_{jkp} \times 0.5 \right]$$

$$V_{jk} = \frac{\sum_{p=1}^{n} \left(V_{jkp} \times \frac{1}{a_p} \right)}{p} \times a_k$$

$$V_j = \frac{\left[\sum_{k=1}^{n} (V_{jk} \times a_k) \right]}{n}$$

where, V = volume (m^3) [V_j being the standing biomss volume of species in the forest]

G = mid-girth (m)

N = number of trees in a particular girth class

H = maximum height of the specie in the plot (m)

i = girth class

j = species type

k = forest type

p = number of plots

a = area (m^2)

The sustainable yield of fuelwood and fodder from these forests was estimated by applying the following assumptions

- the sustainable yield of fuelwood from species other than *Chir pine* is 1% of the total standing biomass,
- the sustainable available biomass from *Chir pine* trees is 2% of the total standing biomass, of which 4/5th is available timber and 1/5th is available firewood,
- the sustainable yield of fodder leaves from *Oak* and other related species is 2% of the total standing biomass

Estimation of grass availability

The grasses in the forest are available in specific patches which the villagers protect and harvest during specific period in an year. To estimate the total productivity of grasses from the forests of *Van Panchayats*, first the proportion of total area of forest under such grass patches is estimated by actually traversing the whole forest area and carrying out discussions with the forest guard and Sarpanch of the Panchayat In each of these patches, about 2 to 3 plots (depending upon the size of the patch) of 2 m x 2 m are demarcated and the grass is actually harvested from these plots by the help of local people. This grass is tied up into a bundle and is weighed. The area of the plot is measured and the total productivity of grass from the patch is projected. Similarly the productivity from other patches is also determined and all these are added up to arrive at the total productivity of grass from the forests of *Van Panchayat*

The total grass production from a **Van Panchayat** was determined as follows

$$W - \left[\sum_{i=1}^{n} \left(\frac{w_i}{a_i} \right) \right] \times A_g$$

where, i = plots

W = average productivity of grass per unit area (kg/m²)

a = area of the measurement plot

w = weight of grass from plot i

A = area under grass in the forest

The gap between the total estimated sustainable yield of fuelwood and fodder from the panchayat forests and the total consumption demand of the people dependent on these for the same provided with an idea of the stress on the biomass system (both Panchayat and other categories of forests) as a result of human interventions in the natural system

CHAPTER 3

Analysis of secondary data

A critical factor in the development of a hill district is its topographical characteristics Unfortunately, detailed topographical mappings are either old or inaccessible due to the strategic nature of the district. Data regarding area, resources and management of the *Van Panchayat* forests are available, though in a scattered and disorganized form *Van Panchayat* forests provide fodder, slates and poles which are used by right holders in villages. Consolidated data on these produce are not available and microlevel data can only be collected by direct surveys. In this chapter a brief history of evolution of *Van Panchayat* system is given and its present organizational structure described Then the results of analysis of data on resources are presented to provide information on the resource situation in *Van Panchayats* in terms of resin and timber yield The financial situation of *Van Panchayats* is analyzed Finally the management of these panchayats is examined in terms of year of last elections and encroachments.

3.1 Evolution of *Van Panchayats*

The first initiative with regard to the forests came in the form of Traill's revenue settlement, which was conducted in 1823, more popularly known as the *'sal assi bandobast'*, as it coincided with *Samvat 1880* - of the Hindu calendar Under the settlement, the boundaries of forests and wastelands were demarcated for individual villages within which every villager enjoyed the rights of pasture and wood cutting Between 1855 and 1861, because of heavy demand for the railway sleepers, extensive felling of *Sal* (Shorea robusta) was carried out in the more accessible forests by the forest contractors in return to small payments. The Government then, for the first time, realized the necessity of formal institutional control of forest resources. The Indian Forest Act came into force in 1865 In the same year, the areas under *Sal* were declared as reserved forests and by 1868 a regular forest department for the Kumaon Commissionery was formed. A second land settlement was carried out in 1872,

under which only private, cultivated lands were measured. These lands were termed as nap land and the rest as benap land.

A more comprehensive and modified version of the Indian Forest Act was framed and enacted in 1878 after which a series of forest appropriations, went on till 1917. Initially 72,520 hectares of forest were declared as reserved forest in 1879. Later through a series of legislation and government orders, all *benap* land were declared as protected forests. These were called the 'New Reserves'.

The possession and ownership by the Government of barren and '*benap*' (unmeasured land) was considered by the people of Kumaon and Garhwal as improper and as usurpation of their rights. The energy needs of local communities, were met by the neighbouring forests and hence the people viewed all attempts to regulate their access to forests as unwarranted interference. They held a mass meeting at Almora in 1907 in this connection. In 1910, the government decided to reserve the remaining forests for proper management. The forest areas were first demarcated and then transferred from the control of Patwari to the Divisional Forest Officer. In 1916, the Kumaon Association was formed, by a group of local people, to deal with the forest problems of Kumaon. This group organized people in Uttar Pradesh hills and took up the demand of inhabitants regarding their rights and concessions.

The Government in 1921, formed a committee called the Forest Grievances Committee, under the chairmanship of Mr. P. Wyndham, to look into the matter. In 1922, the committee recommended that the control of the Reserved Forests be transferred from the Forest Department to the villages. These forests should be managed by the panchayats formed by the villagers. The committee also recognized the dependency and rights of the hill people for grazing, lopping for fodder, etc. in these forests The report of the committee reinstated that unless local villages supported forest policy actively, the forests cannot be managed in a sustainable manner.

The committee recommended reclassification of the forests. The forests having little commercial value but are important for water retention and supply of fuel and fodder to local people were called class I

forests The class II forests have comparatively more valuable tree species The *Van Panchayats* in the hill districts of Uttar Pradesh were formed, for the class I forests, in 1929, following the recommendations of the Wyndham Committee Resolution In 1931, the government formally accepted the concept of *Van Panchayats* by passing a legislation and the rules were laid down for the first time These rules are called Kumaon *Van Panchayat* Rules 1931. These rules have been amended with time, the major ones in the years 1972 and 1976

The milestones in the evolution of *Van Panchayats* are given in Table 3 1 1

Table 3.1.1. History of the *Van Panchayat* system

- First land settlement by Mr Traill in 1823
  Village boundaries demarcated, free to cut timber, graze and collect firewood. (*Sal Assi*, 1980, Vikram era)
- Indian Forest Act in 1865: Institutional control of forests
- Land settlement in 1872: Private, cultivated lands were measured (*Nap* lands) rest not measured '*benap*'
- Indian Forest Act in 1878: Empowered government to demarcate the valuable tracts of forests, restrict utilization
- 1879. 72520 hectares declared reserved forest
- By 1887 all *'benap'* declared protected forest
- Reservation of protected forests (1911-1917). Resulting in protest and burning of forests
- 1931. Formation of Kumaon *Van Panchayat* Rules
- 1972 and 1976: Amendments in the Panchayati rules
- 1984: Amendments proposed in the U P *Van Panchayat* Rules

3.2 Organizational structure of the *Van Panchayat* system

A *Van Panchayat* typically caters to the needs of more than 1 village Some *Van Panchayats* cover 5 to 6 villages However, the records of villages covered by a *Van Panchayat* are not consolidated. A *Van Panchayat* consists of 5 to 9 members, the number being decided by the DM, and headed by a Sarpanch. It is responsible for the maintenance of the

Van Panchayat forest and also for meeting the requirements of the right holders. The *Van Panchayat* is empowered to frame bye-laws for the distribution of forest produce among right holders, for regulating grazing, cutting of grass and collection of fuel and for levying fees to meet its administrative expenditure.

The management of *Van Panchayats* is done by three departments: 1) Revenue department, 2) Forest department, and 3) Other agencies like Kumaon Mandal Vikas Nigam.

Revenue Department

The District Magistrate has an overall responsibility over the *Van Panchayat* system. The District Magistrate's responsibility is derived from the powers vested in him under the *Van Panchayat* Rules, 1976. Reporting to the District Magistrate is the Sub-Divisional Magistrate who is ex-officio *Van Panchayat* Officer (FPO). For every tehsil there is one FPO.

The responsibilities of the District Magistrate are briefly dealt with in the following paragraphs

- Constitution of *Van Panchayat*
  - Constitution of a *Van Panchayat* begins based on the application by one third of the adult residents who have lived in a given village ten years preceding the date of application for forming a *Van Panchayat* The sub divisional magistrate verifies the claims and counter claims of the villagers from nearby villages of their rights The District Magistrate then calls an assembly of residents aged twenty-one or more and calls them to elect a *Van Panchayat* of 5 to 9 members as decided by him. *Van Panchayat* members elect a head (Sarpanch) among themselves.
- Maintenance of *Van Panchayats*

  The District Magistrate issues orders to *Van Panchayats* from time to time to maintain, improve and exploit the forests, the orders being issued on the advice of the Conservator of Forests or Divisional Forest Officers

- The District Magistrate can approve lease of land by *Van Panchayats* for shops and other commercial purposes as long as it is not detrimental to the forest
- The District Magistrate is also required to inspect a minimum of 15 *Van Panchayats* in the district every year.

- Supersession of *Van Panchayat* and their reconstitution
  - The District Magistrate can suspend, supersede or dissolve any *Van Panchayat* that abuses its position or is found negligent in the discharge of its duties or in public interest.
  - The District Magistrate may also depute an officer for temporary management of the panchayat forest in the case of superseded *Van Panchayats*.

In case of a boundary dispute the *Van Panchayat* Officer (FPO) has the power to decide in a summary manner and proceed with the demarcation of the forest area under the proposed *Van Panchayat*. The FPO's main role is in assisting the District Magistrate in constituting a *Van Panchayat* and undertaking preliminary investigations with the help of a village revenue official called patwari in the event of illegal felling of trees He also forwards requests for timber from villagers in a *Van Panchayat* to the Divisional Forest Officer for marking/felling.

Under each FPO a *Van Panchayat* inspector (FPI) is responsible for *Van Panchayats* in a tehsil FPI is an official from the revenue department and is in charge of the day to day operations in a *Van Panchayat*. These include monitoring the maintenance of accounts of *Van Panchayats*, reporting developments on encroachments to the FPO and the District Magistrate, and supervising conduct of elections as and when required, apart from interacting with forest department officials. In addition, as per *Van Panchayat* rules the FPI is supposed to inspect at least one-third of the *Van Panchayats* in his jurisdiction. The FPI also submits a consolidated annual progress report to the District Magistrate on the functioning of *Van Panchayats* under his jurisdiction.

Forest Department

The forest department is responsible for technical support to *Van Panchayats*. This has two components.

- Developing working plans for *Van Panchayat* forests in consultation with *Van Panchayats*, keeping in view the requirements of the villagers.
- Regulating the tapping of forest produce like resin, assisting *Van Panchayats* in marking and felling of timber by *Van Panchayats*. In addition, the forest department also supervises the auction of produce subject to its value. For instance, if the estimated price of produce is Rs. 5000 or above the auction is conducted by the Divisional Forest Officer (DFO) concerned.

It must be noted that the forest divisions cut across tehsils of revenue department and also include a few *Van Panchayats* of the neighbouring district. Each DFO is assisted by range officers in his tasks relating to *Van Panchayats*.

Other agencies

In addition to the District Magistrate's office and the forest department Kumaon Mandal Vikas Nigam (KMVN) (Kumaon regional development corporation), a public sector corporation under the state government, Beshaj Sangh, an apex society under the state government are also involved in the marketing of produce like jhula and medicinal herbs from panchayat forests. Agencies like KMVN and Beshaj Sangh have other tasks and do not seem to attach priority to *Van Panchayat* activities.

In Table 3.2.1, we have identified the decision making bodies for different products from the forests at various stages in their marketing

Table 3 2 1 Decision making arrangements in the management of *Van Panchayat* forest produce

Product	Stage Product development/extraction	Protection	Pricing	Marketing
Local grass	*Van Panchayat*	*Van Panchayat*	*Van Panchayat*	*Van Panchayat*
Commercial grass	*Van Panchayat* Soil conservation authorities	*Van Panchayat*	*Van Panchayat* with approval from DFO	*Van Panchayat* if value less than Rs 5000
Dry and fallen timber	Not applicable	*Van Panchayat*	*Van Panchayat* with approval from DFO	*Van Panchayat* if value less than Rs 5000
Felled timber	Forest department	*Van Panchayat*	DFO Forest department	*Van Panchayat* if value less than Rs 5000
Resin	Forest department	*Van Panchayat*	Conservator, Forest department	Forest department
Other forest produce	Forest department KMVN Beshaj Sangh	*Van Panchayat*	Agency responsible for extraction	KMVN, Beshaj Sangh
Slate/minerals	Private contractor	*Van Panchayat*	Revenue department (does not come to the *Van Panchayat*)	Extracting agency

3.3 Resource condition in *Van Panchayat* forests

The total forest area according to legal status in the Kumaon hill tract is 11,27,400 hectares. The forest areas under the control of *Van Panchayats* in different Districts is given in Table 3.3.1.

Table 3.3.1. Van Panchayat Forest Area in Different Districts in Uttar Pradesh Hills (as on March, 1982).

District	Total forest area (ha)	*Van Panchayat* forest area (hectares)	*Van Panchayat* area as % of total forest land in district
1. Nainital	4,02,640	20,767	5
2. Almora	3,94,432	84,784	21
3. Pithoragarh	3,30,289	82,943	25
4. Pauri Garhwal	4,55,612	29,640	7
5. Chamoli	5,26,936	52,149	10

Source: Revenue Departments, different districts

According to foresters, lopping is a major problem in the Kumaon hills and a few species have been affected considerably. They are as below:

1 Indian oak considered to be one of the best fuelwood species[1] and whose leaves form excellent fodder is among the worst affected.

2 Similarly, Indian hornbeam whose leaves are good fodder and the wood of which finds use in yarn industry is disappearing fast from the Kumaon hills.

3 Chir is presently used as a fuelwood widely but it is a poor quality fuelwood and is used on account of poor availability of other species.

The Oak species are more inflamable and emit less smoke and than other available species.

Almora

Almora district has an area of about 5,38,500 ha, most of which is hilly and lies in the lesser/middle Himalayan range On the basis of altitude, the district can be classified in three categories·

1 Areas whose altitudes range from 750 m to 1250 m and which are suitable for agriculture
2 Areas whose altitudes range from 1250 m to 1800 m and which are conducive for horticulture.
3 Areas whose altitudes are greater than 1800 m These areas are covered by snow for a greater part of the year This altitude range consists of a few famous peaks of the Himalayas.
   They are. Nandadevi - 7822 m, Trishul - 7125 m, Nandakot - 6865 m

A characteristic feature of this region is that the slopes are generally asymmetrical with steeper slopes along the southern side and gentler along the northern ones Five famous rivers flow in this district they being Sarayu, Pindari, Gomati, Kosi and Ramganga. These rivers originate in peaks whose altitude is greater than 1850 m and finally drain into the Ganges basin The soils in Almora district are generally brown hill soils under cool and moist climates The soils are acidic with pH less than 5.5. One estimate of annual soil loss in the middle Himalayas is 12 tonnes per hectare equivalent to 0 8 mm of top soil Hence soil erosion is a major environmental problem

The major important species in the forests of Almora are Pinus roxburghii (Chir pine), Quercus spp. (Oak), Cupresses torulosa (Himalayan cypress), Acer spp (Maple), Abis Pindraw (Silver fir), Aesculus indica (Horse chestnut), Cedrus deodara (Himalayan deodar), Alder birch (Batula alnoides) etc.

The total area under the *Van Panchayats* in District Almora is distributed in different tehsils as shown in Table 3.3.2

Table 3.3.2. Van Panchayats in Different Tehsils of Almora District.

Tehsil	Total no. of VP	Total area under VP's (ha)
Baramandal	605	31,754
Bageshwar	367	21,999
Ranikhet I	404	20,771
Ranikhet II	331	10,260
TOTAL	1707	84,785

Source: Revenue Department, District Almora

The distribution of *Van Panchayat* land in Almora District is shown in Figure 3.3.1. From the figure it can be inferred that a majority of the panchayats have small area under them. Almost 73% panchayats have less than 50 hectares and 88.8% have less than 100 hectares as forest land under their jurisdiction.

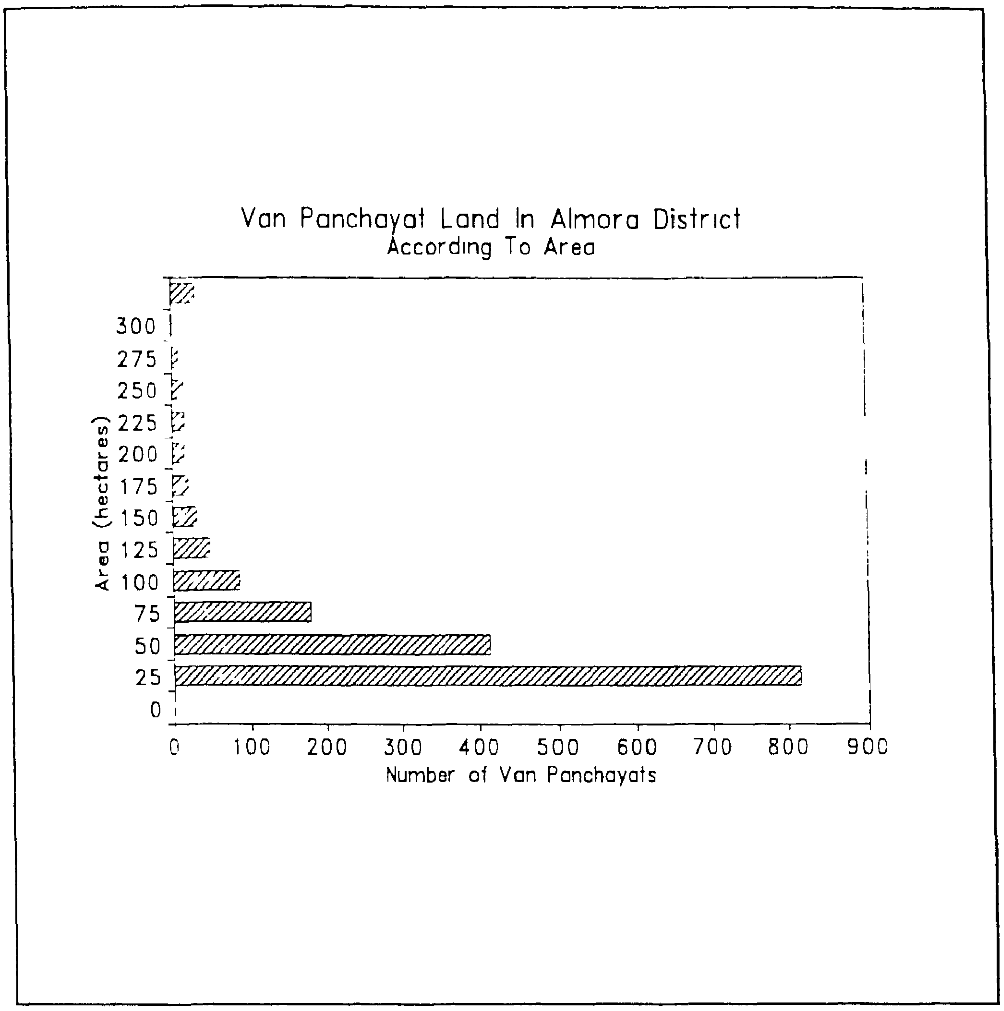


Figure 3.3.1 Distribution of *Van Panchayat* according to forest area - Almora district.

Each tehsil in the district has a *Van Panchayat* inspector who reports to the *Van Panchayat* officer (Sub Divisional Magistrate) of the tehsil. The forest Department discharges its responsibilities in these areas as part of East Almora and West Almora divisions The boundaries of a district and divisions may not necessarily correspond West Almora division covers a few *Van Panchayats* from Chamoli and Garhwal districts. East Almora division covers a few *Van Panchayats* in Pithoragarh district. Timber and resin are extracted from the *Van Panchayat* forest under the supervision of the Forest Department. The records of these extraction are analysed here The other produce (fuelwood and fodder)

used by the rightholders is managed by the *Van Panchayat* and their use is discussed in the case studies.

Timber. In East Almora forest division, the *Van Panchayats* have yielded more dry and fallen timber compared to that from West Almora *Van Panchayat* forests. The details are given in Table 3.3.3.

Table 3.3.3. Timber yields over years in East and West Almora Forest Divisions.

	West Almora		East Almora	
Year	No. of panchayats	Yield (cu.m.)	No. of panchayats	Yield (cu.m.)
1984-85	NA	NA	4	652
1985-86	NA	NA	3	119.5
1986-87	NA	NA	3	304
1987-88	3	77.1	8	656
1988-89	3	134.3	11	1941
1989-90	1	104.8	4	373
1990-91	2	112.2	5	623

Source: Forest Department, Almora

The average annual yield from the panchayat forests of East Almora Forest Division has been 667 m^3, with an average of 123 m^3 per *Van Panchayat*. In West Almora Forest Division the average annual yield is 107 m3. The average yield per *Van Panchayat* has been 47.6 m^3 of timber. This comes from nine *Van Panchayats*. Though most of the timber comes from the *Chir* species but the are other species like *Haldu, Sal, Tun, Malu,* etc. also contribute to the timber production in some *Van Panchayats*.

Resin. The other major produce from panchayat forests is resin which is the basic raw material for resin and turpentine oil. An indication of approximate yield of resin from the forests in Uttar Pradesh hills can be realized from the fact that the public sector resin processing unit in Rampur has an installed capacity of 22,000 tonnes and processes

roughly 11,000 tonnes annually In addition, other pnvate sector umts also exist. Production of resin has been declining overall in Uttar Pradesh with changes in 70's when systematic tappıng of chir was introduced which resulted in reduction in the number of blazes per tree and stipulation of standards in the size of blazes and depth in order to prevent injuries to trees. In terms of annual yield, data has been given for both East and West Almora forest divisions in Table 3.3.4

Table 3.3.4. Resin Yield from *Van Panchayat* Forests in East and West Almora Forest Divisions (quintals).

Table 3.3.4: Resin extraction form forests in East and West Almora Forest Divisions

Year	West Almora			East Almora		
	Civil Forests	Panchayat forests	No. of panchayats	Civil Forests	Pancha-yat forests	No of pancha-yats
1984	1687.0	4759 5	144	1504 0	2990	114
1985	NA	5049	161	1374 0	3010	122
1986	360.0	1184	92	404 0	951	97
1987	1014.0	3988	152	906 0	2333	112
1988	873.0	3289	136	741.0	2122	100
1989	656.0	3183	135	654.0	2034	101

Source Forest Department, Almora

The resin yield form the Civil forests is much less than that from the *Van Panchayat* forests, the area under *Van Panchayat* forests being more than under the Civil forests An attempt to collate the data from Forest and Revenue Departments and arrive at a more comparable figure of yield per unit area was carried out and the results are shown in Tables 3 3.5 and 3.3.6. The records being maintained in different formats and also due to the discrepancy in the names of *Van Panchayats* in

records of the two departments, most of the data could not be collated for area and resin yield of the panchayats.

Table 3.3.5 Baramandal - Resin yield over years.

Sl. No.		Year of establishment	Average* Prod (qtls)	Standard Deviation	VP Area (ha)	Average Yield (qtls/ha)
1	Chaldhi	1935	19.2	2.5	306.8	0 1
2	Chanauli	1954	22.5	4.5	8 8	2 6
3	Chauna Bhandar	1935	12.6	1.3	186 0	0 1
4	Devnaula	1942	3 9	3 9	18 0	0 2
5	Dhauna	1932	13 9	4 8	66 4	0 2
6	Dungari	1962	18.4	6.0	16.0	1 1
7	Gairad	1976	26 6	17 7	214.8	0 1
8	Kakli	1961	19 6	5.0	22.0	0 9
9	Kande	1961	13 6	9 4	14 0	1 0
10	Khaspad Kavairaji	1940	42.4	5.4	203.2	0 2
11	Kotyooda	1967	6.9	3.1	35.8	0 2
12	Maniagar	1947	6 9	1 7	14.0	0 5
13	Matkanya	1964	10 4	2.6	40 4	0.3
14	Munauli	1955	18.0	9.8	12 8	1 4
15	Naali	1978	25 5	8 2	6 8	3 8
16	Naini Banpachapada	1978	18 2	0.0	10 0	1 8
17	Naugaav	1959	16 3	5 9	31.2	0.5
18	Nisanaih	1936	14 8	1.1	204.8	0.1
19	Papoli	1966	9 4	4.9	25 2	0.4
20	Pilna	1952	12 3	2.2	54 4	0 2
21	Pokhri	1981	10 5	1.5	18.0	0 6
22	Simar	1964	9.1	3.0	10.7	0.9
23	Tikar Khana	1955	6.4	0.4	86 6	0 1
	Average					0.7 ± 0 9

Source Forest Department, Almora
* The average is based on data from 1985 to 1989

Table 3.3.6 Bageshwar - **Resin yield** over years

Sl No		Year of Establishment	Average yield	Standard Deviation	Area (ha)	Yield Qtls/ha
1	Amaiyashi	**1953**	20 4	2 1	6.4	3 2
2	Amasarkot	**1977**	14 2	3 9	17 4	0 8
3	Baikodi	**1976**	2 0	0 0	23 6	0 1
4	Bhagartola	**1971**	9 7	2 0	12 6	0 8
5	Bhantholi	**1953**	31 2	0 0	16 1	1 9
6	Bughad	**1964**	12 7	1 5	60 0	0 2
7	Chaura	**1976**	29 6	10 1	45 2	0 7
8	Gairad	**1943**	19 0	4 5	20 0	1 0
9	Gavad	**1967**	12 5	4 5	19 2	0 7
10	Idia	**1943**	6 2	1.3	2 8	2 2
11	Jaungaav	**1964**	16 4	3 6	30 2	0 5
12	Kande	**1963**	13 6	9 4	19 2	0 7
13	Kanpooti	1950	28 7	2 5	103 2	0 3
14	Khaneradhar	1965	24 1	11 0	46 1	0 5
15	Khankro	1978	21 4	7 9	20 8	1 0
16	Khoona	1968	12 0	3 1	18 0	0 7
17	Kuchkhet	1980	8 5	2 0	11 0	0 8
18	Malladesh	1952	129 3	38 2	236 8	0.5
19	Mate	1952	30 1	16.0	7 2	4.2
20	Naigvadi	1943	34 9	8 2	27 8	1.3
21	Naugaav	1964	13 4	5 7	14 0	0 5
22	Papoli	1946	9 4	4 9	98 8	0 7
23	Sijoli	1977	31 8	7 2	5 6	0 3
24	Thaklla	1970	27 2	5 5	33 3	4 9
25	Tolo	1964	36 2	22 1	101.2	1 1
	Average					1.18 ± 1.19

Source Forest Department, Almora

The data shows very large variability in resin yield. There could be a number of reasons for this including natural variability, extraction practices and errors in reporting etc.

Pithoragarh

The district Pithoragarh is situated in the north-west of Uttar Pradesh and forms the north eastern part of the Kumaon Division. On its north and east lies international border of Tibet and Nepal respectively while on its south west touches the district of Almora. Nainital district is on its south and on its west is District Chamoli. The total geographical area of the district is 8,85,600 ha, which is 17.32% of the total hill area of the state.

The district is situated between the altitudes of about 700 to 7000m above the sea level. A major part of the district lies under snow throughout the year and a considerable area is rocky and barren. The months of October to January are the coldest with a minimum of 0°c. The average rainfall in the area is between 100-150 cms with most of the rains during the months of July and August.

The vegetation of the district can be divided into four distinct divisions (1) the Sal forests upto a height of about 1,220 m (2) Chir forests upto an altitude of about 1,800 m (3) oak forests between the altitude of 3,250 and 4,000 m and above that the major species are (4) coniferous forests. These forests are confined in the southern part of the district only, most of the northern part being rocky and covered with snow.

There are 1023 *Van Panchayats* in the district, covering an area of 89,243 hectares (1991 figures; source: Revenue department, Pithoragarh). The distribution of *Van Panchayats* in different tehsils with their respective areas of the district is given in Table 3.3.7 and the total number of panchayats in the district distributed according to area is presented in Figure 3.3.2. It can be observed from the figure that almost 60% of the panchayats have area less than 50 hectares and about 80% have less than 100 hectares.

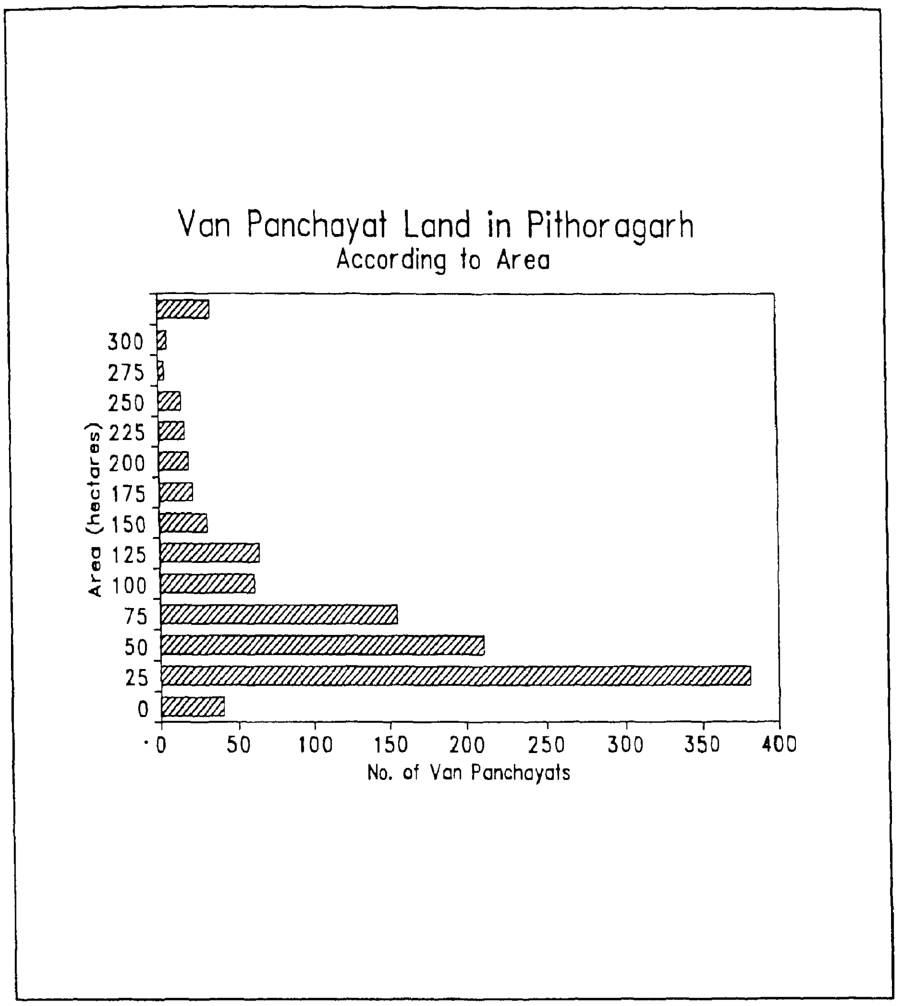


Figure 3.3.2. Distribution of *Van Panchayat* according to forest area - Pithoragarh district

Table 3.3.7. *Van Panchayats* in Different Tehsıls of Pithoragarh District.

Tehsil	No. of *Van Panchayats's*	Area (in ha)
Didihat	277	13,930
Dharchula	91	15,883
Pithoragarh	274	12,036
Munsyari	119	21,105
Champhawat	262	19,989
Total	1023	82,943

Source: Revenue Department, District Pithoragarh

Timber. The production of timber in Pithoragarh district in the year 1989-90 was 1364 m^3. From the records of Revenue Department an attempt to collate the area of the panchayats with their timber production was carried out to arrive at an more comparable figure of yield per unit area, see Table 3.3.8.

Table 3.3.8. Pithoragarh - **Timber yield** during 1989-90

S No	V P Name	Tehsil	VP Area (ha)	Volume (m^3)	m^3/ha
1	Bagerhi	Champawat	993 76	77 0	0 1
2	Talli khatoli	Champawat	241.6	46 6	0 2
3	Kot amori	Champawat	347 2	132 4	0 4
4	Dhaun	Champawat	64 0	26 9	0 4
5	Bathulia	Champawat	39 8	17 0	0 4
6	Simalta	Champawat	122 0	72 0	0 6
7	Parewa	Champawat	97 2	86 5	0 9
8	Jogabasan	Champawat	74 0	66 3	0 9
9	Karoli	Champawat	130 0	118 2	0 9
10	Chaura pita	Champawat	64 4	63 9	1 0
11	Malli	Champawat	37 2	43 4	1 2
12	Patoli	Champawat	38 0	47 2	1 2
13	Tiplagunth	Champawat	26 1	35 3	1 4
14	Pokhari	Champawat	16 1	26 4	1 6
15	Suni	Champawat	28 0	77 8	2 8
16	Rikholi	Champawat	10 0	51 2	5 1
17	Kada gaon	Champawat	8 0	83 2	10 4
18	Syali	Didihat	16 0	269 8	16 9
	Total			1351 1	
	Av ± Std				2 4 ± 4 1

Source. Revenue and Forest Departments, Pithoragarh

Table 3.3.9. Pithoragarh - Timber yield during (1990-91).

S. No.	V.P.Name	Tehsil	Area (ha)	Vol. (m^3)	m^3/ha
1	Chhena	Pithoragarh	105.2	91.2	0 9
2	Bastiya Majhera	Champawat	150.0	192.5	1.3
3	Bathulia	Champawat	39.8	22.7	0.6
4	Gadsari	Champawat	109.3	140.1	1.3
5	Lada geroli	Champawat	26.8	89.6	3 3
6	Nandola	Champawat	28.8	68.2	2.4
7	Patoli	Champawat	38.0	61.5	1 6
8	Rikholi	Champawat	10.0	45.6	4.6
9	Salli	Champawat	286.0	244.9	0.9
10	Sallishes	Champawat	-	91.2	-
11	Syali	Champawat	116.5	158.9	1.4
12	Tanda	Champawat	41 6	109.5	2.6
	Total		952.0	1315.9	
	Avg ± Std				1.7 ± 1.2

Source: Revenue and Forest Departments, Pithoragarh

In 1990-91 while the numbers of panchayats producing timber reduced to 18, the total production went upto about 1868 m^3 Again while collating the data from the records of Forest and Revenue Departments, only 12 data points could be collated, see Table 3.3 9. It can be observed that in the year 1989-90, though most of the panchayats were producing around 1 m^3/ha, the average per unit production was 2.44 m^3/ha whereas the same for the year 1990-91 was 1.77 m^3/ha.

Resin The production of resin from the panchayats of different ranges in Pithoragarh Forest Division in the year 1991 is given in Table 3 3 10

Table 3.3.10 Pithoragarh - resin yield during 1991

Divisions	No of Panchayats	Production (qtls)
Devidhura	31	650
Bhingrada	46	1259
Lohaghat	29	619
Pithoragarh	5	51
Askot	11	228

Source Forest Department, Pithoragarh

The figures are of absolute production of resin in *Van Panchayats* and collected from the Forest Department These figures do not provide any information regarding the productivity of these panchayats

3.4 Financial situation and management status of *Van Panchayats*

3.4.1 Financial situation

Ability of a local institution to function in a financially viable manner is a major indicator of its successful functioning. This applies equally to primary agricultural cooperatives and *Van Panchayats*.

The sources of revenue of a *Van Panchayat* are twofold:

- Income from fines and sale of dead trees, grass, etc - this income is normally small and is just enough to meet the wages of a forest guard. The decisions on the use of this revenue are taken by the *Van Panchayat* without many conflicts.
- Income from sale of resin, timber and *jhula* (moss like substance) - The decision making in this case has been centralized by law. This income is determined in the following manner.
  - The cost of extraction of resin in actuals plus overheads determined by the state government is charged by the forest department.
  - In the case of other forest produce like timber, 10 percent of the sale proceeds are deducted by the forest department as administrative charges.

The manner of determination of administrative overheads is based on the *Van Panchayat* rules of 1972. The distribution of the net income from sale of resin determined as above is based on a formula in which 20 percent of the income is allotted to *Zilla Parishad* fund (District Council) for area development, 40 percent to the Forest Department fund for development of *Van Panchayat* forests and the remaining 40 percent in the account of individual *Van Panchayat* in the District Magistrate's office. The first and third funds are directly under the control of the District Magistrate's office.

In the process of our research, details of annual income from resin sale from both East and West Almora forest divisions were collected for the past six years which has been given in Table 3.4.1.

Table 3.4.1. Income from resin sale ('00,000 Rs.)*

Year	Forest division		
	East Almora	West Almora	Total
1984	5.24	7 29	12.53
1985	7.66	12 67	20 33
1986	0.93	0.62	1 55
1987	4.84	7 41	12 26
1988	6.37	9 12	15 50
1989	9.24	13.59	22.84
1990	Royalty rate not yet decided by the state government	As in East Almora	
Total	34.30	50 71	85.01

*Includes *Van Panchayats* of District Almora only.
Source: Forest Departments, East and West Almora

The total income from resin in 1984-89 in Almora district *Van Panchayat* forests is Rs. 8.5 millions with an average of Rs 1 42 millions per year including income in 1986 which has been below normal It must be noted that the income has been calculated on the basis of royalty rate for resin as determined by the state government. The market price[1] of resin is higher than this royalty rate

The income from timber in both East and West Almora forest divisions has been given in Table 3 4 2 This does not include sale of dry and fallen timber which is normally sold locally.

[1] In the year 1989, the market rate of resin was Rs 1130 50 per quintals whereas the Forest Department paid a sum of Rs 479 60 per quintal to the panchayats

Table 3.4.2. Income from timber sale from *van panchayat* forests in East and West Almora Forest Divisions ('00,000 Rs).

Year	West Almora	East Almora	Amount Total
1987-88	0.25	2.78	3.03
1988-89	0.62	8.06	8.68
1989-90	0.48	1.72	2.18
1990-91	0.24	2.84	3.08
Total	1.60	15.38	16.97

Source: Forest Departments, East and West Almora

Our research revealed that presently Rs. 9.50 millions is accumulated in the account of *Van Panchayats* (but under the control of the District Magistrate). The break up of this amount has been given in Table 3.4.3.

Table 3.4.3. Number of *van panchayats* with funds - District Almora

Tehsil	No. of *Van Panchayats* having funds	Amount (Rs.)	Amount accumulated Rs per *Van Panchayat*
Almora	237	33,13,927	13,983
Ranikhet & Bichiyasain	247	37,26,414	15,087
Bageshwar	191	24,67,682	12,920
Total	675	95,08,023	14,086

Source: Revenue Department, Almora
30 Rs = 1 US $

As per records in the District Magistrate's office presently 994 *Van Panchayats* (58% of total) are in a financially non-viable condition. Their tehsilwise number has been given in Table 3.4 4

Table 3.4.4. Number of *van panchayats* with no income - District Almora

Tehsil	No of non-viable *Van Panchayats*
Almora	317
Ranikhet & Bichiyasain	501
Bageshwar	176
Total	994

Source: Revenue Department, Almora

The causes of financial non-viability are as below.

- Absence of sources of revenue,
- Mismanagement of individual *Van Panchayats*,
- Absence of a proper organizational mechanism by which funds that derive from a particular *Van Panchayat* are invested back for developing the forests under that *Van Panchayat*

As is evident from the table below (Table 3.4.5), a majority of the panchayats in both Almora and Pithoragarh are single village *Van Panchayats*. An attempt was made to correlate the multi-village panchayats and non viability on the hypothesis that the multivillage panchayats would have more stress on the same forest resource than a single village panchayat. It can be observed from the table that there is no correlation between the number of multi-village panchayats and non-viable panchayats

Table 3.4.5. Viability of *Van Panchayats* - Districts Almora & Pithoragarh

Tehsil	No of VP	Area (acre)	Funds (Rs'00000)	No. with funds	Non viable	Single Vill.	Multi Vill.
District - Almora							
Almora	605	84915	33.4	237	317	NA	NA
Ranikhet I & II	737	78347	36 7	247	501	719	18
Bageshwar	367	78140	24 5	191	176	313	54
District - Pithoragarh							
Dharchula	87	38950	.50	3	Nil	234	6
Didihat	153	22544	.83	31	Nil	NA	NA
Lohaghat	270	30000	NA	NA	4	236	34
Munsyari	131	48764	.11	2	Nil	126	5
Pithoragarh	281	28884	.33	19	Nil	265	16
Thal	117	10797		NA	Nil	117	Nil

Source: Revenue Department, Almora

In District Pithoragarh there is little correlation between the number of viable panchayats (1035) and the number of panchayats with funds (55). This indicates that the condition of panchayats in District Pithoragarh is more sound than those in District Almora, and these have largely non-Chir forests, which enables them to manage their expenses from the revenue generated in the panchayat locally.

As far as financial status of individual *Van Panchayats* is concerned, a majority of them have annual income less than Rs. 25000. The number of *Van Panchayats* which have no income has been given in Table 3.4.5. There has been a suggestion that income from well-off *Van Panchayats* can be used in *Van Panchayats* that are not financially viable. Such a step in our opinion will be a short term measure and cannot be sustained as it does not solve the non-viability of such *Van Panchayats*.

It has been pointed out (DM's report dt 18.5.90) that the funds of profitable *Van Panchayats* could not be utilized for financially weak *Van Panchayats* as the profitable ones have expressed their non willingness for such measure

Utilization of funds

In Almora district the total amount of funds that has remained accumulated in District Magistrate's office is to the extent of Rs. 95 lakhs. Even though the forest department is supposed to utilize revenue from sale of resin from *Van Panchayat* forests towards *Van Panchayat* forest development the amount is utilized sub-optimally. Table 3 4 6 provides the end-uses of funds (from sale of resin) by the District Magistrate's office in the Almora district

Table 3.4.6. Use of funds from sale of resin

	End-use	Amount (Rs) 1987-88	1988-89	1989-90
1	Wages to guards	44524 00	71335.00	167493 00
2	Afforestation/Wall	81919 00	107937.00	91281 00
3	Pillar construction	18713 00	54861.00	71043.00
4	Panchayat rest house construction	31736.00	81944.00	34856 00
5	School construction	14405 00	19540 00	127000 00
6	Bridge construction	16500 00	2500 00	16196 00
7	Drinking water/Irrigation programmes	12664.00	98995 00	96824.00
8	Things for community use (utensils etc)	27000.00	4148.00	44040.00
9	Road construction	38272.00	76578 00	
10	*Zilla Parishad* rest house repair	42000 00		
	Total	289461.00	479532.00	725311 00

Source Revenue Department, Almora

Of the total amount as indicated in Table 3.4.6, Rs. 144305/- in 1987-88, Rs. 245399/- in 1988-89 and 395494/- in 1989-90 have been spent for uses (item 4 to 10) other than direct forest development. This clearly points out that funds from *Van Panchayats* are treated as general development funds. It may appear that there is nothing wrong with such utilization as long as the funds are spent for development. However it must be pointed out that this prevents the development of a local institution for managing forests. To elaborate further, in any enterprise the returns should flow back to the owner so that he nurtures the enterprise further. Similarly, the returns from sale of resin from a given *Van Panchayat* forest should flow back to that *Van Panchayat* as the villagers are stake holders in the same. Only this will instill in the minds of villagers a sense of ownership and responsibility in maintaining the *Van Panchayat* forest. Presently such a mechanism is absent in the *Van Panchayat* system.

It has been estimated that a sum of Rs. 79.75 lakh will be required for construction of pillar in *Van Panchayat* forests for protection in 994 financially non viable *Van Panchayats*.

Table 3.4.7. Estimation of funds required in *van panchayat* forests.

Tehsil	Funds required (Rs.) For pillar construction	For wall construction
Almora	3170000 (for both activities)	
Ranikhet & Bichiyasain	175000	2000000
Bageshwar	230000	2400000
Total funds required =	7975000	

Source: Revenue Department, Almora

A suggestion is made that grants similar to those made by revenue board to villages in the plains could be given to non viable *Van Panchayats*. From the above discussion it can be easily inferred that non viable

Van Panchayats form a distinct category of *Van Panchayats* and the strategies that are to be adopted for building these institutions have to be different. A related question is whether more *Van Panchayats* should be formed every year rather than focusing on this category of *Van Panchayats* As far as the suggestions of diverting funds from successful *Van Panchayats* or grants to non profitable *Van Panchayats* it is our opinion that both suggestions are not sustainable and do not solve the root cause of non viability. In addition, diversion of funds can affect the health of profitable *Van Panchayats* and Van Panchayat development plans based on grants is not desirable as development may get linked to availability of funds and the quantum can vary every year subject to government regulations The total income and expenses in the *Van Panchayats* for three years have been given in Table 3.4.8

Table 3.4.8. Surplus generated from *van panchayat* forests - District Almora (in '000 Rs.)

	1987-88	1988-89	1989-90
Income			
A. From resin	1226	1550	2284
B. From timber	303	868	219
A+B	1528	2418	2502
Expenses			
C Afforestation related	145	234	330
D Not related to forest development	144	245	395
C+D	289	480	725
Surplus (A+B) - (C+D)	1239	1938	1777

Source. Revenue Department, Almora

From our analysis as above it is clear that the *Van Panchayat* system as a whole is financially profitable. Presently this surplus cash is retained in the *Van Panchayat* account controlled by the District Magis-

trate's office and earning a small interest. There is scope for better financial management. Perhaps this is possible only if an autonomous apex organization of *Van Panchayats* is formed. The issues that emerge from our discussion of the financial management of *Van Panchayats* can be summarized in two categories:

Income generation of non viable Van Panchayats. Given the fact that in Almora district alone 994 *Van Panchayats* are financially non viable, a question is as to how the income can be increased. A possible strategy can be an intensive afforestation drive and also explore augmenting other sources of revenue. A related question is the impact of financial non viability on the internal dynamics and people's participation in a *Van Panchayat.*

Utilization of funds from viable Van Panchayats. An issue is whether at all income from *Van Panchayats* should be utilized for end uses relating to non forest uses. Another issue which falls in this category is the extent of financial autonomy for a *Van Panchayat.* Any amount for expenditure by the *Van Panchayat* is sanctioned by the DM on the approval of FPI and FPO.

3.4.2 Management of van panchayats

From the existing data it appears that electoral processes in *Van Panchayat* system are truncated. The number of *Van Panchayats* where elections are due is given in Table 3.4.9.

Table 3.4.9. Number of *van panchayats* where elections are due (1990).

Tehsil	No. of VP	Elections Due	Suspended
District - Almora			
Almora	605	89	Nil
Ranikhet I	406	189	4
Ranikhet II	331	NA	3
Bageshwar	367	194 .	1
District - Pithoragarh			
Dharchula	87	43	Nil
Didihat	153	NA	Nil
Lohaghat	270	53	Nil
Munsyari	131	5	Nil
Pithoragarh	281	57	Nil
Thal	117	4	Nil

Source Revenue Departments, Almora and Pithoragarh

In district Almora alone, elections are due in 28% of the total *Van Panchayats* (till 1991), which is a substantial number Similarly in Pithoragarh elections are due in about 16% of the panchayats. It is clear from the table that a significant percentage of *Van Panchayats* forests are being managed by *Van Panchayats* where elections are due. Given the long drawn process of conducting elections it appears that the structure has not been able to respond adequately in strengthening the democratic processes in these institutions One possible reason may be the preoccupation of the District Magistrate's office with revenue, law and order and other development programmes that *Van Panchayat* elections are a casualty.

Inspections of *van panchayats*

The number of inspections of *Van Panchayats* carried out by the officials is grossly inadequate. In Almora district, the FPI's have been able to inspect only 14% of the panchayats (Table 3 4.10) which is by far less

than the stipulated number of 1/3rd per year, in the *Van Panchayat* Rule 1976. The inspections carried out by the FPO (SDM) and the DM and/or DC are negligible in both districts. In Pithoragarh, for instance, the DM has inspected only 1 panchayat in an year.

The reasons for the FPI not being able to carry out the requisite number of inspections could be that the number of panchayats under the jurisdiction of one FPI is large and the physical nature of the terrain augments to the problem of accessibility to these. The FPO, DM and DC are primarily revenue officials and the matters relating to the *Van Panchayats* tend to be accorded less priority.

Working plans

The working plans, according to which a *Van Panchayat* carries out its activities is formulated in the initial stages of the formation of the panchayat. While forming the panchayat, a meeting is held which is attended by the FPI and all rightholders in the panchayat in which the management plans are decided upon by the majority with the approval of FPI. In most of the panchayats, these working plans continue to remain unchanged even though there have been sea changes in the resource condition.

Table 3.4.10. Annual number of inspections of *van panchayats* (1990)

Tehsil	No of VP	Inspections By			
		FPI	FPO	DM	DC
District - Almora					
Almora	605	64	5	2	2
Ranikhet I	406	67	2	1	1
Ranikhet II	331	37	8	Nil	5
Bageshwar	367	67	13	9	2
District - Pithoragarh					
Dharchula	87	89	25	Nil	2
Didihat	153	Nil	13	Nil	Nil
Lohaghat	270	130	5	1	2
Munsyari	131	41	5	Nil	1
Pithoragarh	281	60	10	Nil	5
Thal	117	35	15	Nil	Nil

Source. Revenue Departments, Districts Almora and Pithoragarh.

In the case of Almora tehsil for instance, of the 605 *Van Panchayats* in existence, the FPI has been able to visit only 64 *Van Panchayats* which is about 10 per cent of the total and is less than the stipulated number This indicates the threshold limit of the existing structural arrangement

Violations of *van panchayat* rules

As regards to the management of panchayat forests by *van panchayats*, the encroachments of panchayat forest land, illicit felling of trees and willful setting of forest fires are considered as important violations. As per the information available for the two districts, Almora and Pithoragarh (see Table 3.4.11) the total number of encroachments (2.7%) are negligible as are other violations (1 2%) The above violations are those that have been reported. The FPO on receipt of complaints orders an

investigation by the Patwari, based on which it is taken to the Court. Illicit lopping for fodder though is a problem has to be seen in a local context as the operational rules vary in *Van Panchayats.*

This is contrary to the findings in the case studies. An explanation for this discrepancy would be that most of these cases do not get reported as, to bring any offender to book, is a long drawn process and more often than not, fails to make the desired impact. The encroachments in the forest lands are a common problem across the panchayats - though to a varying extent. The encroachments once made are hard to revoke. Most of the encroached lands being in areas difficult to access because of regions' typical terrain, the FPOs or the FPIs very seldom go to the site and check. This gives rise to a sense of lethargy in the Sarpanch and the panchayat as the results of complaining etc. do not produce results. Thus a majority of the encroachments do not get reported.

Similarly, incidents of illegal lopping in the forests also do not get reported, mainly because the panchayat has no powers to make the offenders pay and the present process is too time consuming and often does not prove effective. Moreover the knowledge that panchayat does not have requisite powers and the process for punishment is often long drawn and generally ineffective, encourages more and more people to try to get benefits from the common property resource

Table 3.4.11. Record of violations

Tehsil	No of VP	Encroachment	Violations
District - Almora			
Almora	605	31	3
Ranikhet I	406	16	17
Ranikhet II	331	Nil	Nil
Bageshwar	367	Nil	Nil
District - Pithoragarh			
Dharchula	87	Nil	2
Didihat	153	Nil	1
Lohaghat	270	Nil	6
Munsyari	131	Nil	Nil
Pithoragarh	281	Nil	Nil
Thal	117	Nil	Nil

Source Revenue Departments, different districts

CHAPTER 4

Case studies

The criteria for selection of *Van Panchayats* for conducting case studies are explained in Chapter 2. The parametric information on the selected sites is given in Table 4.1.

Table 4.1. Information about selected *Van Panchayats*

Van Panchayat	Year of Formation	Area (ha)	Altitude (m)	Species (major)	Resin yield annual 100 kg
Jageshwar	1935	172.8	2000	Chir, Oak	25.9
Sirauli	1949	58.2	1450	Chir	23
Malladesh	1948	237.0	1500	Chir	93
Dole	1956	440	1800	Chir, Oak	
Vijepur	1975	251	1200	Oak, Chir, Khair	39.29
Gaudihat	1967	123	1370	Sal, Khair	

A team of two professionals spent 7 to 10 days in the field to collect primary information with the help of local official and youth. This was supplemented by the information in the record room In this chapter, each case study is presented by first giving the history of its formation and a description of the resource as well as villages. The decision making arrangements and the supply-consumption data are analysed to reflect the management practices and the stress. Finally the major issues in managing the resource have been identified and the perceptions of local people are summarised. A comparison of *Van Panchayats* is presented in the end.

4.1 Phulai Jageshwar *Van Panchayat*

The functioning of Phulai Jageshwar *Van Panchayat* (PJVP) in managing the resource in the past 58 years of its existence has been analysed with following focus.

- The decisionmaking arrangements and control systems employed by the PJVP in relation to the resource condition of the panchayat forest.
- The linkages between PJVP and the external arrangements like the forest and the revenue departments and their evolution over time.

4.1.1 History of the Phulai Jageshwar Van Panchayat (PJVP)

PJVP consists of 7 villages. Situated in the Kumaon Himalayas, Phulai Jageshwar is 34 km to the West of Almora town. It is a famous pilgrim center and one of the 12 *Jyotirlingas* in India and also the only place where a temple dedicated to *Mrityunjay* exists[1]. The villages are "*Goon-th*"[2] settlements. Most of the people belong to the caste of priests though a few households of other castes are also found. The major occupation of the people is agriculture supplemented by small businesses near the temple and by undertaking rituals commissioned by pilgrims visiting the temple. The people of this area are poor and a majority of the young men migrate to places as far as Rajasthan[3] in search of livelihood. The forests under PJVP are located between the altitude of about 2150 m to 2300 m above mean sea level.

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1 The temples in Phulai Jageshwar are among the surviving specimens of Hindu temple architecture in this region and are declared protected monuments by the Archaeological Survey of India.

2 Goonth villages are settlements created to maintain temples

3 Rajasthan is a neighbouring state in the Western parts of the country with a part of its boundary in common with Uttar Pradesh.

The PJVP was formed officially in 1937 though the process was initiated in 1935. Even though the people of Bhagartola *Van Panchayat* had objected to the formation of the PJVP on the grounds of their *Sal Assi* boundaries the FPO rejected them on the following grounds:

- Sufficient portion of forest was available adjoining Bhagartola.
- Access to class II reserved forest was allowed to them.
- The question of *Sal Assi* did not apply in reserved forests.

Apart from this there were objections from Thakalna, Dhaulnaili-Nisnaili and Katonjia asking for rights[4] in PJVP. The FPO decided on these on the basis of availability of resources in the vicinity of the villages and proximity of other existing *Van Panchayats*. In 1940 about 25 hectares of class II (coupe no 41c) forests were handed over to PJVP on the condition that no green trees and leaves should be cut in this for a period of five years and should remain closed during that period. A new Sarpanch was also elected in April 1940.[5] Around the same period a recommendation was made by Mr Wilmott, Sub-divisional Officer (SDO) to split the PJVP into two, one consisting of five villages, the other consisting of three villages. However, the *Van Panchayat* inspector argued against the move and pointed out that the villagers demand stemmed from the motive of the two groups of villages to retain control of the panchayat forest adjacent to their villages with them and that the villagers had no specific grievance against the functioning of the existing PJVP. The FPI responded to the situation by persuading the Sarpanch who was the Sarpanch of three panchayats by getting his son elected as Sarpanch of one group of villages and the head of the opposition as Sarpanch for the other[6]. In 1942 election related tensions appear to have cropped up

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4 These were in two forms. Either specific rights like access to cattle for grazing in summer or request from a specific village to be included in a particular forest panchayat

5 Forest Panchayat Inspector's inspection note dated 16.4 1940.

6 FPI's note dated 16.4.1940

PJVP was divided into two *Van Panchayats* in 1953. 341 hectares of the *Van Panchayat* (317 hectares of class I and 24 hectares of class II) was divided into two *Van Panchayats* as below:

- Phulai Jageshwar consisting of the villages Phulai Jageshwar, Siroda-Mantola, Bahtan, Gothyura, Jakh and Koteshwar[7].
- Bora consisting of villages Bora, Jaduri, Thala

In 1963 PJVP was dissolved; a situation that was unique[8]. This raised certain questions as to whether the entire procedure of formation of a *Van Panchayat* has to be undertaken afresh including preparation of maps and recording of objections from the villages to the formation of the *Van Panchayat*. Suffice to say at this point that the entire procedure was avoided thanks to an original analysis by the FPI. PJVP was reconstituted after elections. The PJVP election is overdue and in 1992 the old Sarpanch of PJVP, an influential and respected person in all the nearby villages died and it was fortunate that some of us were able to meet him, given his wealth of knowledge regarding PJVP.

4.1.2 Resource situation and use

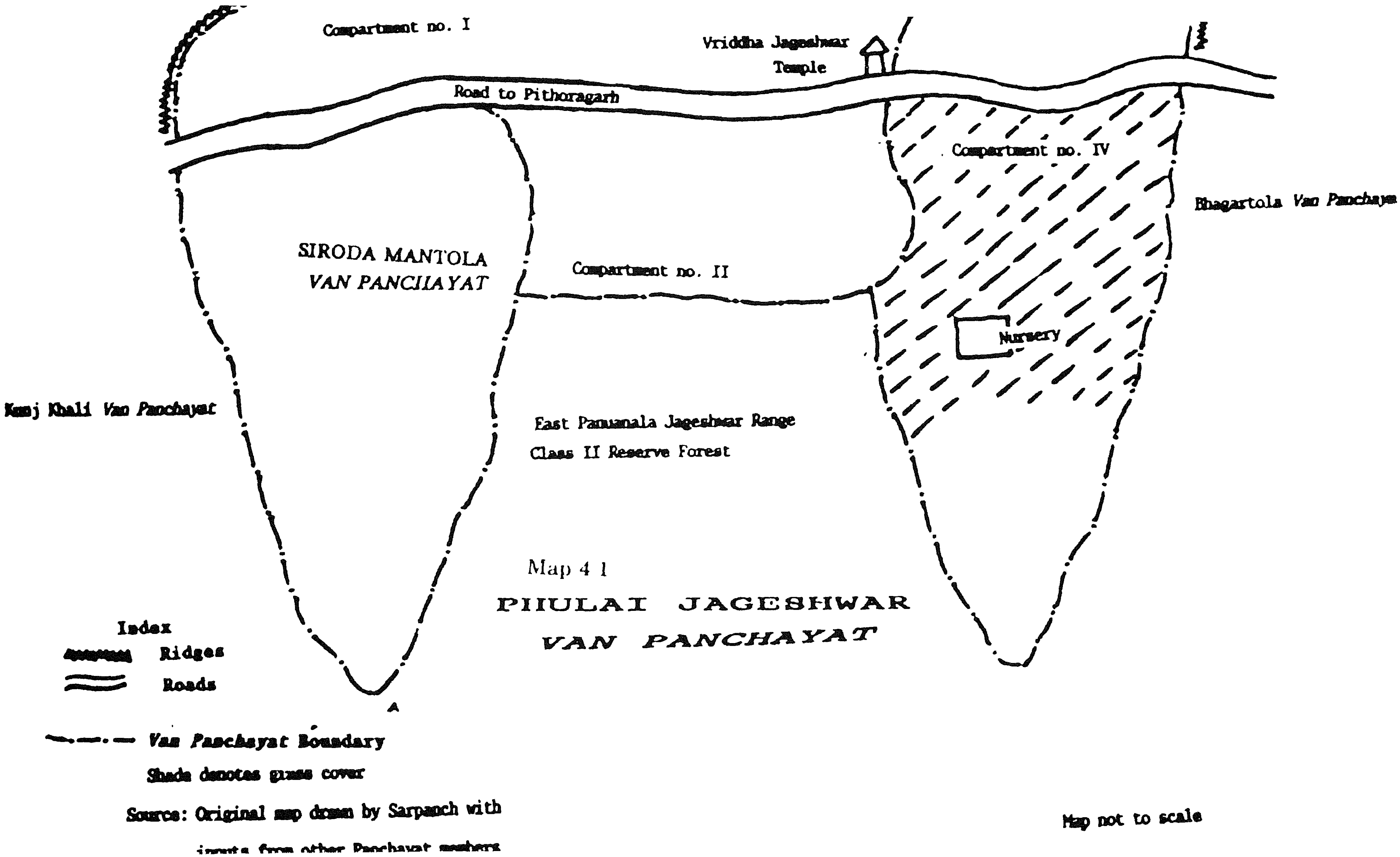
The panchayat forest presently is divided into different compartments as below:

Compartment No 1	to the east of Tipalia Dhinga upto the ridge above Gothyura.
Compartment No 2	extends from Deval Dhunga to Ghatgarh
Compartment No 3	to the east of Gowpani along the ridge of Naula upto Chakalgarh Dhar.
Compartment No 4	extends from Naula dhar to pattis dhar along the ridge upto Halia tapu.

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7 The total number of households presently in the dependent villages is 158. The population and livestock details are given later in the case.

8 The circumstances under which this step was taken was not found in the records. While it was possibly due to illegal felling of trees whether it was from the reserved forest or from the forest panchayat is not clear.



Map 4 1
PHULAI JAGESHWAR
VAN PANCHAYAT

The natural barriers like ridges and streams separate the panchayat forest from other categories of lands (say agricultural). To great extent the different compartments were formed on the basis of these natural barriers. Where such barriers are non existent particularly along the adjoining *Van Panchayat*, intrusions occur. Considerable portion of the panchayat forest is also at a higher altitude than the agricultural lands and is relatively steep.

The panchayat forest consists of an area of 172 hectare and has mainly *Chir, Oak, and Burans* mixed with other miscellaneous species like *Utis, Ainyar, Kafal, Mehul, Gingaru* etc. The panchayat forest also is adjacent to a class II reserve forest consisting mainly of *Chir*. Some features of the Jageshwar *Van Panchayat* are given in Table 4 1.1.

Table 4.1.1. Phulai Jageshwar *Van Panchayat*: Some Features

Altitude	2200 mts above msl
Total area	172.8 hectares
Major species	Mixed (Chir, Oak)
Number of villages	7
Total agricultural area	82.33 ha
Population dependent (households)	795 (158)
Livestock dependent	1327
Total production from forest	
Grass	nil
Fuelwood	118 tonnes per year
Timber	85 tonnes per year
Leaf fodder	140 tonnes per year
Any other	nil
Crop residue from agriculture	247 tonnes per year
Total consumption in the village	
Fuelwood	754 tonnes per year
Fodder	2730 tonnes per year

The physical nature of this common property resource sets the constraints for institutional regulation of the resource. Joint use of the panchayat forest can be maintained only within limits. While the exact

limiting conditions of the resource use cannot be specified in the absence of continuous monitoring of the forest, we have made an attempt to estimate the biomass supply from the panchayat forest From our observation during this study and discussions with users reveal that there is reduction in fodder species in the panchayat forest. In addition, the regeneration is mostly non fodder species like *Chir.*

The present total population and livestock details were collected from the Patwari of the area. These are presented in the table below.

Table 4.1.2 Census data for the villages in the Phulai Jageshwar *Van Panchayat* (1991)

	Phulai Jageshwar	Siroda	Mantola	Bahtan	Koteshwar	Jakh	Gothyura
Total Population	261	52	166	87	85	27	117
Livestock Position							
Bulls	65	8	20	15	12	5	19
Cows	125	14	30	35	30	10	45
Buffaloes	110	15	36	28	25	6	22
Goats	240	42	125	70	70	25	76
Horses	-	1	1	-	2	-	-

4.1.3 Decision making arrangements

At the time of the formation of the *Van Panchayat* the following scheme of management was decided (Detailed report of FPO, Kumaon division, Nainital dated 30.9.37)

- A scheme of cyclic lopping will be introduced in these compartments keeping in view the needs of all right-holding villages. Lopping should only be in open compartments and only mature trees should be lopped. No tree will be deprived of more than half of its leaves. No tops of trees will be cut.
- No green tree will be cut from the panchayat forest without express permission of the panchayat.
- No tree will be sold and no charcoal for sale will be prepared without the express permission of the FPO.
- A watchman will be kept for the protection of the forest.

- Pucca boundary pillars will be fixed according to the map of the panchayat forest.
- The panchayat will hold atleast one sitting every month.
- No money of the panchayat fund will be spent by the Sarpanch without obtaining the sanction of the panchayat.
- The panchayat will submit a monthly report to the FPO.
- The panchayat will maintain cash book, minute book etc.

It appears that the above rules were designed with the objective of introducing some uniformity in the management of the *Van Panchayat*s and are more in the nature of "model " bye-laws. An agreement was also signed between the Commissioner and the leaders of the villages.

The members of the *Van Panchayat* are elected and are required to act collectively in matters pertaining to the management of the *Van Panchayat*. To some extent kinship ties aid this process. The ability of the PJVP to act collectively is demonstrated by its representation "..........- The *Van Panchayat* requests the forest department that whenever (resources) are removed from the panchayat forest by contractors royalty be given to the panchayat. This will result in more income for the panchayat and more enthusiasm towards it from the villagers. The *Van Panchayat* hopes that the forest department will procure royalty for the panchayat on all works given on contract involving the panchayat forest" (Representation to the FPO dated 19.3.40).

The operational rules used in PJVP can be summarized under the following categories :

- Partitioning rules.
- Entry and exit rules that are aimed to regulate access to the panchayat forest.

The *Van Panchayat* considers only the right holders to have access to the panchayat forests. This is clear from the request of the range forest officer (RFO) to the FPO for grass to govt. mules and fuel to the

touring officer's camp in the absence of class II forests in the vicinity (RFO's note dated 14 4.40)[9].

PJVP imposes penalty on free riders This normally takes two forms.

1. Seizure of tools and releasing them on payment of the penalty.
2. Imposition of fines

On occasions, PJVP has reduced fines on apology (Resolution dated 2.6.42)

PJVP has the following sources of revenue·

- Sale of fodder
- Sale of dry and fallen timber
- Sale of resin
- Fines
- Sale of medicinal plants

However PJVP is authorized to spend only the amount in the local account[10], the rest being with the district magistrate

The role of bodies external to the *Van Panchayat* merit attention The revenue department in practice has intervened in the following situations

1. Settling boundaries either during formation of the *Van Panchayat* or in disputes with the forest department (FPO's note dated 20.4.-40, FPI's note dated 5 7.67) and with villagers on encroachment (note dated 28.10.49)
2. Elections related aspects.
3 Liquidation of the *Van Panchayat* (Order dated 4 9.63).
4. Financial management of the *Van Panchayat* funds, the local as well as the district level

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[9] Similarly in the adjacent forest panchayat of Khali, KVP refused to permit quarrying in the panchayat forest for the purpose of construction of menials quarters in Jageshwar range KVP agreed only after a threat from the Deputy Commissioner that it would be liquidated (DC's note dated 29 2.40)

[10] The Sarpanch is allowed to spend Rs 50/- on his own while for spending higher amounts even if it is from the local fund requires permission from the FPO

PJVP just like other *Van Panchayats* is governed by legislation, the major one being the *Van Panchayat* Rules 1976. Suffice to say that there has been centralization over the years with powers being vested with the District Magistrate. This is possibly to do with the general trends in public administration over the years. The erosion in the powers of the *Van Panchayats* is pointed out by another study (Katar Singh & Vishwa Ballabh 1988). In addition, general legislation on forests is applicable to PJVP also, for instance the current ban on felling trees. Even though there is nothing specifically mentioned in the rules, by convention compartment no 3. is set aside as a grass preserve. The different compartments are also not equal in size. This compartment is open to right-holders for a month from Oct-Nov (based on the Hindu calendar). Each family buys rights at Rs 30 to 35/- per right[11]. A right entitles the right-holders to harvest one headload of fodder per day till the compartment is kept open. During the year a guard is appointed to protect the panchayat forest. During the fodder season an additional guard is hired. Salary for them is paid from the income of the *Van Panchayat*. As far as fuelwood is concerned a right-holder[12] is allowed to collect fallen twigs and branches from the panchayat forest at no cost. Timber is sold to right-holders at Rs 100/- per tree.

4.1.4 Present situation

Based on the biomass estimation that was undertaken the total growing stock in the panchayat forest was found to be 9986 m^3. This gives an average growing stock of 58.4 m^3 per hectare of panchayat forest. Of the total growing stock the maximum contribution was that of mixed miscellaneous forest (contributing 36%) followed by chir forest contributing (33%) and oak forest contributing (31%). The forest can supply around 118 tonne per year of fuelwood on a sustainable basis as against a

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11 There is no upper limit.

12 A 'right holder' in a forest panchayat is a person/family who is a descendant of the people living in the village at the time of formation of the panchayat and has land and a kitchen in the village Apart from this basic rule, the norms for any new person to become a right holder varies across the panchayats.

demand of 754 tonne per year. The gap is made good by harvesting more than the sustainable supply from the panchayat forest and also lopping from the Civil and Reserved Forests Regarding leaf fodder the sustainable harvest from the panchayat forest is to the tune of 140 tonne per year as against a total requirement 2731 tonne per year (by dry weight). The gap is made good by resources from the agricultural fields. The researchers did not notice grass growth in the reserved forest which is completely dominated by chir. Table 4.1.3 and Table 4 1.4 contain the details of resource situation and utilisation.

Table 4.1.3. Volume distribution of different species in the forest of Phulai Jageshwar *Van Panchayat* (cum)

Forest type (area, ha)	Growing stock of species (m^3)			
	Chir	Oak	Burans	Others
Chir (51.84)	9131 40 ± 1730 00	484.60	79 70	24 1
Oak (51 84)	441 90	7254.40 ± 1836 20	1354 50	137.2
Mixed-Misc (67.4)	1638 8 ± 1324	5877.3 ± 2137.3	2834.6 ± 2105.6	452.9 ± 213.3
Average growing stock in the forest			58 4m^3/ha	

Table 4.1.4. Total production of timber, fuelwood and fodder from the forests

	Total in each species (m³)	Sustainable proportion	Sustainable production	Timber (m³)	Fuel wood (m³)	Fodder (m³)
Species						
Chir	3546.63	0.02	70.93	56.75	14.19	-
Oak	4660.41	0.01	46.60	-	46.60	93 21
Burans	1551.25	0.01	15 51	-	15 51	-
Others	227.25	0.01	2 27	-	2.27	-
		TOTAL PRODUCTION (m³)		56.75	78.57	93 21
		TOTAL PRODUCTION (tonnes)		85.12	117.85	139.81

Assumptions

1. Of the total forest area, Chir is predominant in 30% of the area, Oak in 30% and 39% is mixed miscellaneous forest with 1% area being vacant in the forest.
2. The fuelwood (sustainable) is 1% of the total woody biomass from the forests other than the Chir forest.
3. The woody biomass available (sustainable) from the Chir forests is 2% of the total biomass. Of this 4/5th is the available timber and 1/5th is the available fuelwood.
4. The leaf fodder (sustainable) availability from the forest (oak) is double that of the fuelwood production from the same

4.1.5 Issues and discussion

The perception of the people is one of decreasing biomass production in the panchayat forest and a reduction in the population of oak over the years. The late Sarpanch, Dhaniram Bhatt, attributed this to three different reasons.

(a) General increase in the population[13] as well as families. This causes additional stress.

(b) Species like chir compete with oak and the entire regeneration is chir. This to some extent is aggravated by ban on thinning.

(c) Improper methods of lopping of fodder leaves by village women.

As a response to the above problem, the PJVP has taken the following steps:

(a) Development of a nursery, albeit crude, consisting entirely of oak saplings.

(b) In a resolution of the *Van Panchayat* dated 23.2.1986 compartment no. 2 has been closed for a period of ten years and treated as a protected compartment so that two young oak trees remained safe. A request for construction of stone walls or wire fencing by the district authorities has been made.

(c) In another resolution, the *Van Panchayat* has also requested permission from the district magistrate to undertake thinning of smaller chir trees so that younger oak trees would grow better.

The general perception of the villagers is that the resin extraction can be done by the *Van Panchayat* and this would augment its income. Our study revealed that the meetings were poorly attended. Not many people were aware of either of the revenues or the records or rules of the *Van Panchayat*.

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[13] The population of the villages under the PJVP have shown an increase of 204 (795 in 1991 against 591 in 1981).

Our discussions with Mr. Dhaniram Bhatt revealed the following points:

(a) The record maintenance was quite good.

(b) He did admit that some villagers were critical of him on the grounds that he had under priced selling of timber for construction.

(c) He pointed out that there were thefts from the panchayat forest and a gradual decrease in his ability to collect the penalties from free riders.

This he attributed to the decline in the value system, his old age and inadequate support from the authorities in punishing the guilty partially due to a long administrative and legal process. From our observation there was no doubt that he was a respected leader in the village.

Involvement of women is virtually non-existent in running PJVP. This primarily stems from the fact that the women are largely illiterate and the existing social setup doesn't allow the women to come out of their social preserve. Moreover the accepted status of women in the family is such that there is no time left for her to indulge in any 'extra-curricular' activity. This results in unscientific lopping for fodder by the women. It is not that they lack the necessary skills for lopping. The only problem is their lack of knowledge of scientific methods of lopping, which can be imparted by special training to the women.

Given the above picture it is important to examine the extent to which PJVP has performed successfully. In the context of the deteriorating biomass condition of the panchayat forest we found PJVP responding to the situation by establishing a nursery of Oak saplings, without any help from external agencies. Similarly the initiative to protect Compartment no. 2 where there are young Oak trees and the petition to thin Chir trees in this compartment have to be viewed accordingly.

In a collective effort the role of the management is mainly in establishing norms of fairplay similar to an efficient market system. Viewed in this perspective, this does not seem to be the case in Phulai Jageshwar. Even though a system of payment does exist, for fodder and timber, it has shortcomings as identified below:

- Not many villagers are completely aware of the rules Decisionmaking is based on discussions within the council of PJVP.
- Even though any right holder can buy timber at a price fixed by PJVP, the basis on which the prices are arrived at is not clear to the right holders. In other words, they lack complete information.
- Presently the sarpanch is responsible for issuing the receipts, collecting cash, and marking the trees to be felled This results in ambiguities and is a shortcoming of the present control system
- The participation of women in matters related to the management of the forest panchayat and its resources is dismally low.

In the case of PJVP, the sarpanch has been able to bear the setup costs in view of his prior exposure as a worker in different capacities in the forest and revenue departments. This had possibly served as an informal training to him. PJVP has been able to establish and ensure norms of fair play only to a limited extent Hence, PJVP is at best a partially successful *Van Panchayat*.

4.2 Malladesh *Van Panchayat*

The Malladesh *Van Panchayat* is analyzed with a focus on the following aspects:

- the relatively inaccessible nature of the *Van Panchayat*
- presence of a large forest area under a single village *Van Panchayat*
- presence of only one tree species *(Chir)* in the forests
- other activities being carried out in the forests and its impacts on the resource condition and its management

4.2.1 Profile of Malladesh village and Van Panchayat

Though the formal orders of formation were passed only in 1956, the Malladesh *Van Panchayat* was conceived in 1948 by the villagers of Malladesh. In 1952, the SDM (Sub Divisional Magistrate) passed orders for the forest to be managed by the villagers for a statutory period of two years, before it could be recognized as an independent *Van Panchayat.*

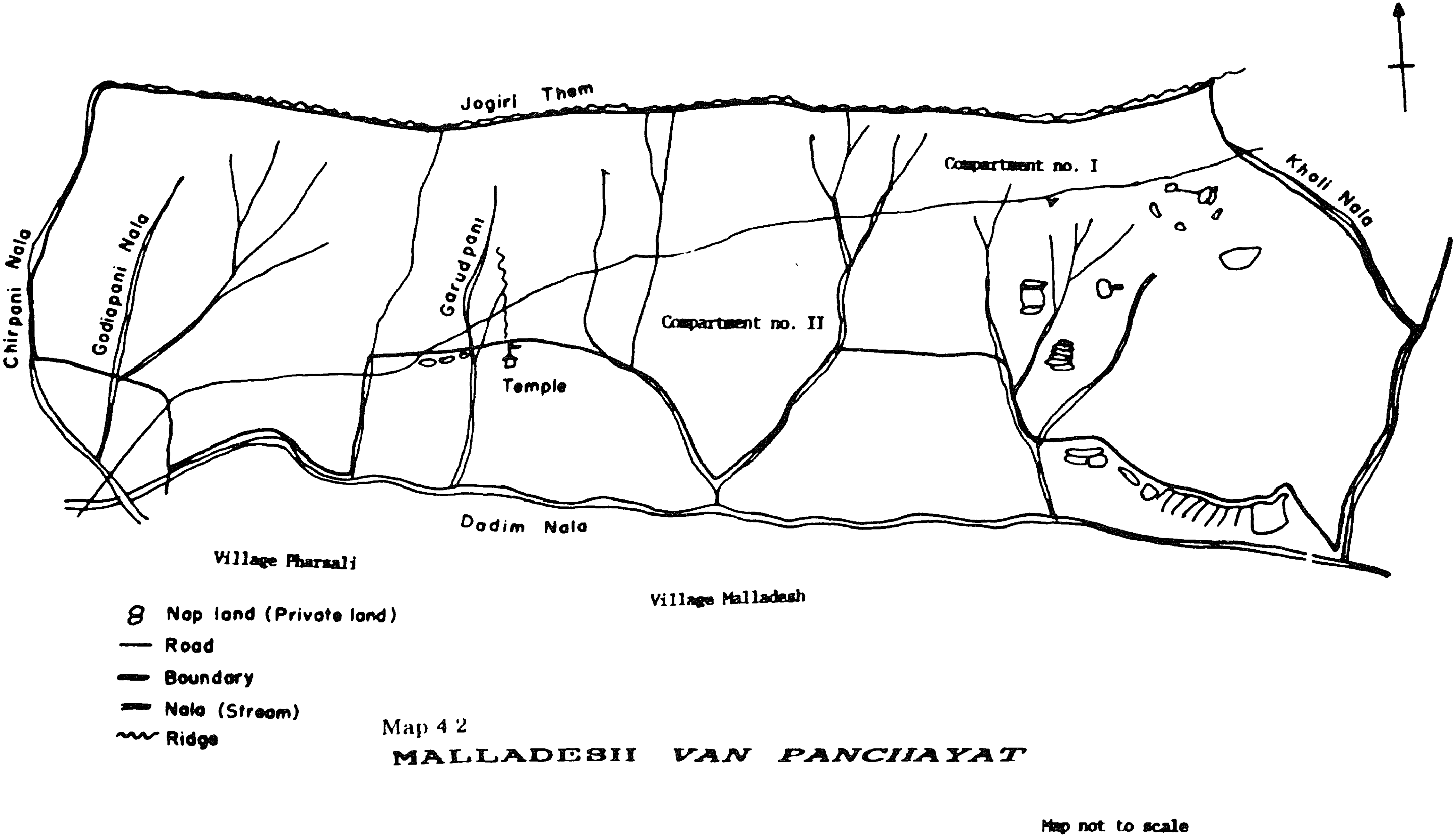
Malladesh *Van Panchayat* is a single village Panchayat and this village is an independent Gaon Sabha too. Malladesh is situated on Kapkot - Sama route, which is a *kuccha* road, about 12 kms from Kapkot, the block headquarters and lies 36 kms to the North of Bageshwar, the tehsil headquarters. A trek of 2 kms from the road is needed to reach the village. The forests of the *Van Panchayat* are on both sides of the road. The village has small settlements or *goonths*[1] which are not very scattered. The neighboring village Pharsali has a common boundary with Malladesh. The village Malladesh has a middle school, a primary school and a nursery school in the village, whereas a senior secondary school is in a nearby village Pharsali. The market place of both Malladesh and Pharsali are at the same place with a few shops in the market.

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[1] Goonths are small hamlets which are made up of a small number of families, generally of a caste different than those in the main village. For revenue purposes, they are considered part of the same village.

The total population of village Malladesh is 748, majority of them being *Giris*, a nomadic caste, henceforth settled to agriculture. Also residing in the village are the *Bhotiyas*, also a nomadic tribe, now settled to agriculture. The Bhotiyas are settled in a separate goonth of the village and they too have a sizeable population (around 170 in number). The livestock population in the village is about 344 The major occupation of the populace is agriculture with animal husbandry being practiced for household purposes and draught power.

The panchayat forest is spread over an area of 237 hectares consisting mainly of *Chir* trees, situated at an average altitude of 1500 mts above the mean sea level. The *Van Panchayat* is divided into three compartments Compartment nos I & II are the ones which were demarcated originally at the time of Malladesh *Van Panchayat*'s conception, the division between the two being the motor road running through the forest The third compartment (compartment no. III) was an addition to the Malladesh *Van Panchayat* when in 1977, a civil forest was converted into panchayat forest. The Panchayat's boundary on three sides is made up by the mountain streams flowing through the natural valleys On the fourth side, the ridge serves as the boundary (refer Map 4.2). The trees in the forests are relatively new, majority of them being quite young with their girths not exceeding 1.3 mts. Established as well as new regeneration can be seen in many places in the forest. The adjoining forests are either Reserved forests or *Van Panchayat*s of nearby villages, the major tree specie in these forests being Chir. There are some grass patches in the *Van Panchayat* where the grass is being preserved during the monsoons and utilized later as fodder for the livestock in the village.



Map 4 2
MALLADESH VAN PANCHAYAT

Another aspect of the Malladesh *Van Panchayat* is that the forest land is rich in the softstone *(khadiya)* deposits, which is mined from the *Van Panchayat* area by a private contractor The presence of a resource other than that of biomass in the forest, which is controlled by a factor alien to the *Van Panchayat* has a major effect on the management of the *Van Panchayat*. The softstone mine which was commissioned in December 1973, promised to provide employment to the local people. The work in the mine, leased for a period of 20 years, started in 1974 The private contractor for the mining also promised to carry out land refilling and other rehabilitatory measures after the mining at one site is over. The long term impacts of mining activity in a forest area was not foreseen then. But over a period of time, it has been observed (by the local villagers themselves) that the harmful effects of mine more than offset the benefits[2] accrued by it. There are several large pits in the forest land and the danger of landslides is always there The new mine sites are initiated after the trees and other vegetation from the area are cleared. This is a violation of the forest rules and a loss to the *Van Panchayat*. During the monsoons the water flows through the softstone mines and washes down with it the minerals which, according to the villagers, is affecting the fertility of the fields.

4.2.2 Decision making arrangements

Malladesh being a large village, there are 9 Panchs including two Bhotiyas. The Bhotiyas are not elected out of compulsion (say, a rule), but because of their sizeable population in the village. The *Van Panchayat* is required to meet at least once in a month and also have a general meeting in which all the right holders are present, at least once in three months. For a new person, who settles in the village boundary, to become a right holder in the *Van Panchayat*, a fees of Rs 70 00 has to be deposited with the *Van Panchayat*, with an application to the *Van Panchayat* and the Forest Pancahayat Inspector (FPI). Similar rule

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[2] The major benefit from the mines was employment generation The villagers did not have to go to nearby towns/cities to get employment About 10 - 15 persons from the village are employed in the mine on daily wages ranging from Rs 15 to Rs 30 per day

applies for a new family formed after a split in an old family.All the decisions regarding the management of the *Van Panchayat* and its resources are taken in the Panchayat meetings. Larger issues like the distribution of grass compartments to the villagers and elections, are decided in general meetings in which all the villagers are present.

The *Van Panchayat* employs one watchman round the year. The salary of the watchman is fixed at Rs.450.00 per month. and is paid from amount deposited at the DM's office[3] in the *Van Panchayat*'s account accrued through the sale of the resin produced from the forest. During monsoons, the *Van Panchayat* employs an additional watchman to guard the grass in the forest. The salary of the additional watchman is paid from the revenue collected from the sale of grass rights to the villagers. The *Van Panchayat* also employs a person to inform the villagers about the *Van Panchayat* meetings, for which he is paid a sum of Rs.15.00 per round.

The grass is distributed among the villagers according to the norms being followed since long before the formation of the *Van Panchayat*. Each of the families that originally settled in this village, distributed among themselves, the area of the adjoining forests on which the grass used to grow. As the families split, their respective areas of grasslands also split, as a result of which, some of the families have larger patches of grass growing areas than the others. These families, who have the right to specific forest patches, pay some mandatory amount to the *Van Panchayat* against the payment of salary to the forest guard. There are areas other than these reserved patches, which are open to the villagers. The rights to harvest grass from these are sold to the families on the basis of a strip of forest area per family for a nominal amount fixed by the panchayat in a meeting (Rs. 20.00 per family)[4]. The

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[3] Even if a *Van Panchayat* does not have any or enough money in the DM's office, the DM can allocate some amount to the same *Van Panchayat*, on request and on the basis of need, out of the interest earned from the funds of other Forest Panchayats deposited with him.

[4] The amount charged per family depends upon the salary to be paid to the additional forest guard. The amount currently being charged is Rs 20 00 per family.

families have to cut, carry and store[5] the grass from their area from the month of October, after a decision is taken in the Panchayat meeting.

The right-holders are entitled to one Chir tree per year from the *Van Panchayat* for fuelwood purposes after paying a nominal fee decided upon by the *Van Panchayat*[6] For marriages or constructing and repairing houses etc., timber is made available to the right holders on demand. The person in need puts up an application to the *Van Panchayat* and obtains a no objection certificate (generally the signatures on the application) from all the *panchs* of the *Van Panchayat*. The *Van Panchayat* then decides the amount to be paid to the *Van Panchayat* by the applicant for the tree of the person's choice.

The panchayat is empowered to impose fines on the persons found violating the rules of the *Van Panchayat* such as lopping, encroachment etc. If the guard apprehends a person with any unauthorized implement like sickle, axe etc. in the forest, he has the powers to confiscate the implement and report to the *Van Panchayat*. The *Van Panchayat* then decides to impose a suitable penalty in terms of money on the offender, which when paid up would allow the offender to take the confiscated implement back from the *Van Panchayat* In cases where the offender refuses to comply by the directives of the *Van Panchayat* the information is sent to the FPO (*Van Panchayat* Officer, who is also the SDM of the tehsil) via the FPI. The FPO, then directs the Patwari[7] of the area, who has police powers, to take suitable action against the offender.

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5 An interesting observation regarding the storage of grass and crop residues is the method of storage being practiced They make structures known locally as *lotas* Each one is around 2 to 2.5 meters high pole around which the grass or crop residue is tied, sloping outward This keeps the grass etc dry even in heavy downpours Each family makes about 10 to 15 such *lotas*, for which they require wooden poles of 20 to 30 cms each. Sometimes even green trees (mostly of Chir) of smaller height are used to prepare such a *lota*. Once the stored grass etc is used, the pole is used as fuel and the next year a fresh set of poles is used. Each one of the *lotas* is supposed to be of approximately 350 - 400 kgs

6 The amount currently being charged is a flat rate of Rs 15 00 per foot of the girth of the tree

7 The Patwari is the lowest rung of the revenue department in a district. He has the police powers, and is generally considered an influential person in the remote rural areas.

Since this *Van Panchayat* is owned and managed by a single village, which is reasonably homogenous, there are not many conflicting interests as far as the distribution of the forest resources among the right holders is concerned. There have been many conflicts over the distribution of forest resources between Malladesh and neighboring villages. One of the old feuds between Malladesh and Pharsali - a neighboring village, over the right of ownership on a small strip of forest land which started with the inception of the Malladesh *Van Panchayat*, has been resolved by the court recently.

Table 4.2.1. Malladesh *Van Panchayat:* Some Features

Altitude	1500 mts above msl
Total forest area	237 hectares
Major species	Chir pine
Number of villages	1 (one)
Total agricultural area	29.54 ha
Population dependent (families)	748 (130)
Livestock dependent	344
Total production from forest	
Grass	43 tonnes per year
Fuelwood	33 tonnes per year
Timber	13 tonnes per year
Leaf fodder	nil
Any other	nil
Crop residue from agriculture	89 tonnes per year
Total consumption in the village	
Fuelwood	754 tonnes per year
Fodder	540 tonnes per year

4.2.3 Present resource situation and its use

The area of the *Van Panchayat* estimated to be under Chır is 3/4[th] of the total area. The fuelwood that can be sustainably harvested from this area was estımated to be 33.53 tonnes per year (refer Table 4 2.2). The quantity of timber that can be sustaınably harvested from this forest is 134 10 tonnes The requirement of the villagers dependent on this forest for fuelwood ıs estimated at 754 tonnes per year (refer Table 4.2 3).

Table 4.2.2 Volume distribution of dıfferent species in the forests of Malladesh Van Panchayat (m^3)

Forest type (area, ha)	Growing stock of specıes (m^3)
	Chir
Chir (177 75)	5587.7 ± 1530.8
Average standing biomass 23 58 cm/ha	

Table 4.2.3. Total sustainable production of tımber, fuelwood and fodder from the forest

	Sustainable proportion	Sustaınable productıon	Fuelwood (m^3)	Timber (m^3)	Fodder (m^3)
Specıes					
Chır	0.02	111.754	22.4	89.4	0.0
Total			22.4	89.4	0.0

Sustainable productıon of smallwood/fuelwood	33.6 tonnes/yr
Sustainable production of tımber	134 1 tonnes/yr
Total area under grass in the forest	11.85 ha
Grass productivity	0.36 kgs/sqm
Total grass production	42.66 tonnes/yr

Assumptions:

1 The sustainable biomass production from the forests is taken to be 2% of the total bıomass in the forest.

2 Of the total available bıomass, 4/5th is the available tımber and 1/5th is available fuelwood.

3 Since there are no fodder species present in the forest, the availability of leaf fodder is nil.

The area in the Panchayat Forest with grass cover is estimated at 5% of the total area, approximately 11.85 ha. The grass productivity from the forest lands was calculated to be 1.44 kgs per sq. meter. The total annual production of grass from the whole Panchayat Forest area would be 42.66 tonnes per year. The total requirement of fodder for the livestock in the village is estimated at 540 tonnes per year, which is also partly met by the agricultural crop residue production (88.6 tonnes per year).

Estimation of income and expenditure of the panchayat

The sources of income of Malladesh *Van Panchayat* are as follows
Grass @ Rs. 20.00 per family per season
Timber @ Rs. 15.00 per feet (girth of tree) per rightholder per year
Resin -- Not available
Fines etc: Average Rs. 10.00 per incident (assumption: 10 incidents reported per month, according to the old records, and this can vary)
Miscellaneous, if any

The expense heads of the panchayat are as follows:
Salary of the guard @ Rs. 450.00 per month
Stationery etc Rs. 50 per month
Miscellaneous - Rs. 15.00 to the person relaying information about meetings

Total income:

Grass	20.00 x 130	=	Rs. 2,600.00
Timber	60.00 x 15	=	Rs. 900.00
Fines etc.	10.00 x 10 x 12	=	Rs. 1,200.00
TOTAL			Rs. 4,700.00 per annum

Total expenses:

Forest guard	450.00 x 3	=	Rs. 1,350.00
Stationery	50.00 x 12	=	Rs. 600.00
Miscellaneous	15.00 x 12	=	Rs. 180.00 (to the person who informs about the meeting)
TOTAL			Rs. 2,480.00 per annum

Surplus (income - expenditure) = Rs. 2,220.00

The above exercise shows that though the panchayat does not have a very large income, the direct expenditure also is also less (major being the guards salary) and hence the panchayat has a surplus income every year. The income from the resin royalty goes to the DM's account at the District headquarters

4.2.4 Issues and discussion

The villagers generally harvest much more than what the forest can sustainably produce on a continued basis. The gap in the requirement of the fodder is met by the crop residue and the leaf fodder that the villagers fetch from the reserved forests. There is stress regarding fodder for which the females have to walk as much as 16-18 km in a day for part of the year. There being no fodder tree species in the forest, the leaf fodder is collected from the reserved forests which are far from the village. The villages that surround the Malladesh *Van Panchayat* have scanty or no forest cover, creating additional pressure on the forests of Malladesh *Van Panchayat*. In the absence of good Civil forests, these villages cater to their need of fuelwood and to some extent, of timber from the forests of *Van Panchayat*, which they obtain by illegal means. Though the boundaries are natural, they do not prevent either the people or the animals to encroach into the forest.

There is no nursery in the *Van Panchayat* though the village has a small nursery owned and managed privately by an individual. Though plantation work in the *Van Panchayat* in the past has been carried out since 1982 by the Forest Department, the Civil and Soyam Department

and the *Van Panchayat* themselves, the no. of trees that have survived in the forest is extremely low.

The no. of encroachments[8] in the *Van Panchayat* is very large (almost 70% of the families have illegally occupied areas in the *Van Panchayat*). Initially there were only a few persons who encroached the *Van Panchayat* land. When a complaint was launched, no action was taken against them. The main reason being the problems in the accessibility of *Van Panchayat* and the FPI being overburdened by the number of *Van Panchayats* that he has to monitor. The offenders were given notices by the FPI and they responded in a positive manner, offering to evacuate the land encroached by them, while actually not doing so. Due to the remoteness of the *Van Panchayat*, there was no one to check the effectiveness of the offenders' responses. This enticed other people as well, in the village, to have additional land holdings in the forest land, tending into a snowball effect. Thus the number of encroachments in the forest of *Van Panchayat* has been on an increase. Even in the case of illicit felling of trees and lopping, the fine recovery from the offenders has been poor. Because of the large area of the *Van Panchayat* the lone watchman is unable to check the irregularities. The trees are felled in advance and then reported to the *Van Panchayat*. The grass is also cut well before the *Van Panchayat* decides, in the meeting, to open the forest for cutting grass.

The most pressing problem the people of Malladesh *Van Panchayat* are facing is that of increase in the mining area by the softstone contractor. The initial contract for the softstone mining was for 20 years and this period is now coming to an end. The villagers, in various meetings of the *Van Panchayat*, have expressed concern regarding the deteriorating condition of *Van Panchayat* because of the mine and have passed resolutions for closure of mining operations in the *Van Panchayat*.

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[8] These encroachments are mainly used as private lands for keeping their livestock by the people. They build a hut in the secured area and grow grasses or vegetables on the land.

Another concern of the villagers (as it was revealed in discussions and primary survey) was resin extraction carried out by the private contractor. The contractor did not follow the recommended specifications, laid down by the Forest Department, for resin extraction. Though the panchayat is getting revenue from the sale of resin, the villagers preferred to put a stop to this activity, at least for 5 years, and they had discussed this proposition in the recent panchayat meetings.

The performance of Malladesh *Van Panchayat* has to be examined in the light of above facts. The biomass condition in the forests of Malladesh *Van Panchayat* is deteriorating because of excessive stress on the forests for fuelwood. In the discussions that were held with the villagers, they stressed the fact that since majority of the forest area is under Chir, no other tree specie could compete it for survival. The size of the forest is both, an advantage and a disadvantage. It is an advantage to the villagers as they have the resources in plentiful. At the same time large resources generate a sense of lethargy towards the management of *Van Panchayat*.

The remoteness of the *Van Panchayat* makes it very difficult for the FPI to monitor the *Van Panchayat*. The FPI at Bageshwar, who is incharge of the Malladesh *Van Panchayat* has also under him 366 other *Van Panchayats*, which makes it virtually impossible for him to monitor all the *Van Panchayats*.

There is a steady rise in the awareness among the villagers regarding the forest resource condition and its long term effects on their lives. The protest against the softstone mining and resolutions in the meeting to stop resin extraction are manifestations of these feelings.

4.3 Sirauli *Van Panchayat*

The study of Sirauli *Van Panchayat* focuses on the following aspects:

i. The quick succession of panchayat's Sarpanchs in the last one decade.

ii. The presence of relatively good Reserved and Civil Forests in the vicinity.

iii. Presence of only *Chir* trees in the forest.

4.3.1 Profile of Sirauli Van Panchayat

The formation of a *Van Panchayat* in the village's Civil forest land was initiated by Late Sri Jayadutt Karnatak, in the 1949. The orders from the District Commissioner to formally recognize the Sirauli *Van Panchayat* were passed only in 1960.

The village Sirauli is situated on the Bageshwar-Kanda-Pithoragarh road, around 28 kms from Bageshwar. The village itself is about 2 kms downhill from the motor road and consists mainly of an agrarian population. The agriculture system of the village is not very productive and the general standard of the villagers is poor. Most of the male population of the village has moved to the nearby towns or have joined the armed forces to earn a living to supplement their families' earnings from agriculture. Thus the number of females living in the village is far more than the males. The people of Sirauli are of a priestly caste and are named after the place where these people originated/migrated from i.e., Karnataka, a state in Southern India, though they have adopted the culture of the region and speak the local language[1]. A few of the scheduled caste families settled in the village at a later stage. They live in a separate hamlet at a small distance from the main village. The total population of the village is 284 with about 60 households and the total cattle population is 672. The village does not have a school of its own. The children of Sirauli, go to a nearby village, Ghingartola, about 2 kms, for both primary and secondary education. All other facilities like

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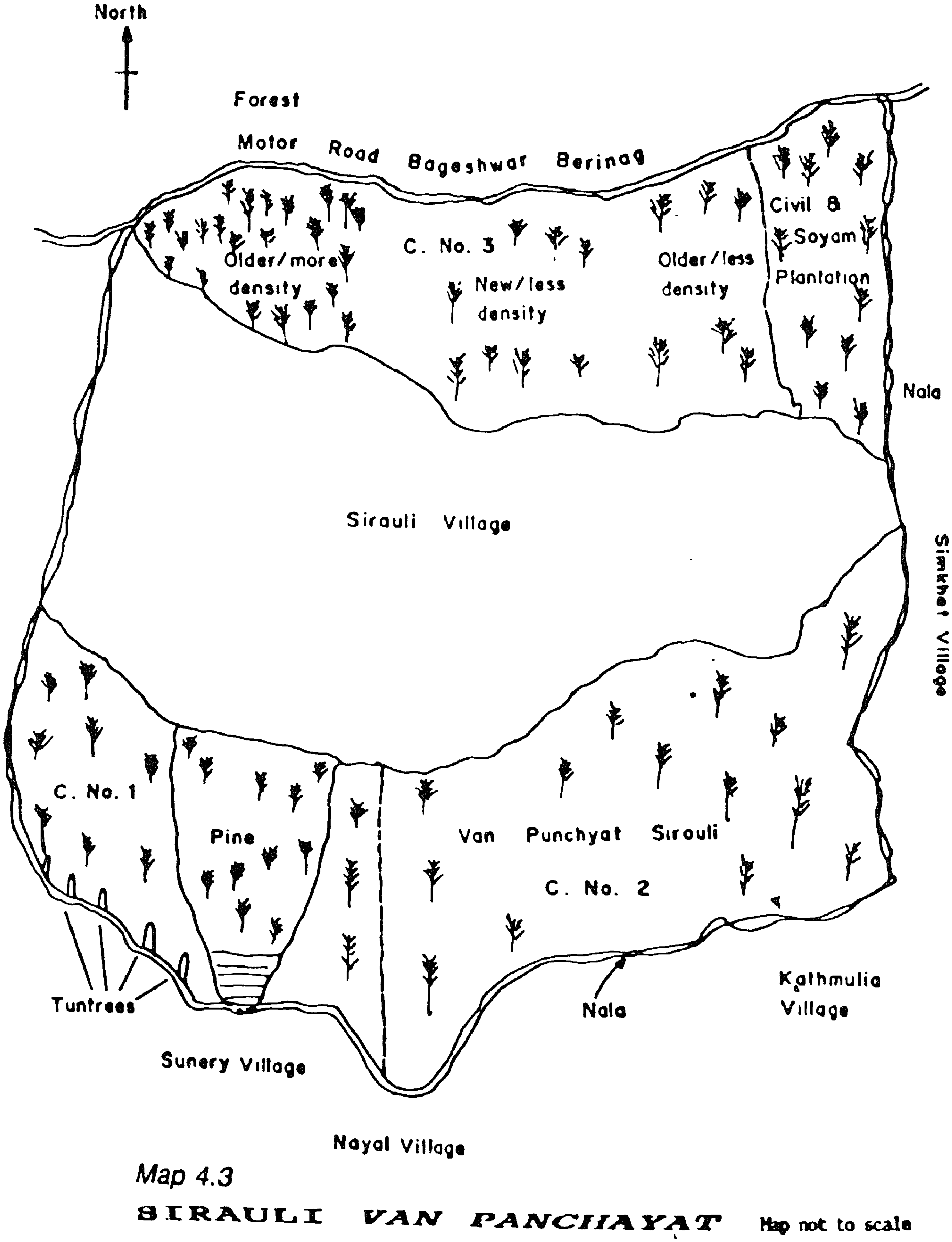
[1] The local language of the people of the region is known as Kumaoni which doesn't have a script of its own and Devnagri script is used.

the market place, a small dispensary, a post office, a bank, and Patwari's office are at the same place.

The forests of Sirauli *Van Panchayat* are spread over 58.2 hectares. They are bound by the motor road on one side and natural mountain streams on the other sides. The forests are divided into 3 compartments. Compartment numbers 1 and 2 are below the village while the third compartment is above the village adjoining the road. The major specie in the forests of Sirauli *Van Panchayat* is *Chir*, with a few *Tun* trees in compartment number 1, near the perimeter (refer Map 4.3).

Table 4.3.1. Sirauli *Van Panchayat*: Some Features

Altitude	750 mts above msl
Total area	58.2 hectares
Major species	Chir pine
Number of villages	1 (one)
Total agricultural area	29.54 ha
Population dependent	284
Livestock dependent	672
Total production from forest	
Grass	nil
Fuelwood	19.10 tonnes per year
Timber	76.41 tonnes per year
Leaf fodder	nil
Any other	nil
Crop residue from agriculture	88 6 tonnes per year
Total consumption in the village	
Fuelwood	370 tonnes per year
Fodder	1226 tonnes per year



Map 4.3

SIRAULI *VAN PANCHAYAT* Map not to scale

4.3.2 Decision making arrangements

Presently there are seven members in the panchayat of Sirauli *Van Panchayat*, of which two are from the scheduled castes. The panchayat also has one woman member as a panch.

The panchayat developed the following management plan according to which its functioning would be carried out.

1. The rightholders in this *Van Panchayat* would be all the residents living within the *Sal Assi* boundary of Sirauli village.
2. The panchayat would have panchs who would be elected from amongst the rightholders.
3. The panchayat would be divided into three compartments and in case of addition of more area in the panchayat, it would constitute a new compartment.
4. The panchayat would appoint a watchman to protect the forest who would be accountable to the panchayat.
5. The panchayat would seek FPO's approval in matters relating to sale of trees to individuals other than rightholders and expenses relating to expenditure on account of public welfare activities.
6. Any person cannot cut green and standing trees from the forest without permission from panchayat
7. The foot paths and water points in the panchayat forest would be kept open for use and the panchayat would not interfere in the same.
8. Panchayat can sell to the rightholders, trees excluding *Tun,* which has been declared protected, at a suitable price. To people other than rightholders, the panchayat cannot sell without approval from the FPO.
9. Periodic meeting of panchayat would be convened as and when required. The Sarpanch will present the income and expenditure account to the panchayat. All the expenditures will be with the consent of the panchayat. The Sarpanch can spend Re.1/- per month for travel and postage without any consent. Receipts will be maintained for both income and expenses.

10. By the end of every month, the Sarpanch will send a monthly report as required to the FPI.

The panchayat has only *Chir* trees in the forest and has lot of surplus amount as resin royalty in the DM's account. This can be inferred from the fact that in the past, the panchayat has been donating money to the nearby areas and villages for various developmental works like schools and hospitals the details of which are as follows:

In 1962, Rs. 5000/- to the Prime Minister's relief fund
From 1964 -1987, Rs. 33000/- to village Ghingartola for constructing a high school
In 1964-65, Rs. 5000/- for a library in Kanda Inter College
In 1966-67, Rs. 8000/- for science building to Kanda Inter College
In 1965, Rs. 5000/- for a Female hospital at Bageshwar

The panchayat has carried out some developmental works in the village. In the year 1955-56, the first drinking water scheme[2] was started by the panchayat funds. Since then, several more water schemes have been carried out in the village.

The management of the panchayat till a decade ago was considered as fairly good by the villagers. The panchayat's later Sarpanchs have been embroiled in disputes regarding the funds utilization and illegal practices being carried out in the forests. The ex-Sarpanch Shri Buddhivallabh Karnatak had sold 105 trees, without taking any receipts, from the panchayat during his tenure of two years. This incident was brought to the notice of DM in March 1990, for which he dismissed the Sarpanch on April 10, 1990. Fresh elections were held soon after and the present panchayat with Shri Suresh Chandra Karnatak as Sarpanch was elected.

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[2] In a drinking water scheme, a natural source of water is tapped. A tank is constructed at a convinient site (generally at a higher elevation from the points where the water is to be delivered). This tank is covered and pipes are taken out to deliver water at desired places (by flow of gravity).

The panchayat had disputes over the boundary with a neighbouring village, Simkhet The contention of the villagers of Simkhet was that a strip of land that was included in the Sirauli *Van Panchayat*'s area, should not be under Sirauli *Van Panchayat*'s control as they were traditionally harvesting the forest produce from that area. In a court case, it was declared to be a common land for the two villages, the ownership remaining with Sirauli *Van Panchayat* and the rights to forest produce being granted to residents of both the villages.

In compartment no. 1, grass used to be preserved for use in the winters. This grass was available to the rightholders at a minimal price of Rs.10/- per family for the season But since last 15 years, this practice has been discontinued and the grass patch has been encroached upon by the nearby villagers. Still there are some patches where grasses grow and the rightholders harvest them during the winters. These grass patches, though in common lands, are for the exclusive use of a few families, who have a traditional right over these patches. They pay a nominal fee to the panchayat, in lieu of the guard's salary, to harvest grass from these patches

The compartment no 3 has been closed for five years for lopping except grass. In compartment number 3, the Civil and Soyam Department has been carrying out plantation in patches of the forest.

There are rules of Forest Department that to tap resin from a tree it should have a minimum girth of 3ft (0.9 meter) at breast height (1.33 meter), but the Forest Department cannot keep a check on all the forests, and the number of officers (FPI) to check these is also inadequate.

The watchman is paid a monthly salary of Rs.250/-, which the Revenue Department pays from the panchayat's funds at the DM's office. The watchman has powers to seize the implements of any person who is found in the forest without the permission of panchayat. He reports to the panchayat about the activities of the concerned person and the panchayat then takes an action against the person in form of suitable fines. Sometimes the panchayat returns the implements after issuing a warning to the offender.

4.3.3 Resource Condition

There are a few (around 6) *Tun*[3] trees in compartment 1 towards the boundary of the forest. According to the villagers, there were more of these trees in the past, but have been cut for making good quality agricultural implements. This compartment being far from the village, the destruction of trees has been comparatively less as was evident from the average girth and height of the trees. The compartment numbers 2 and 3 have relatively less dense forest.

There are some Reserved Forests in the vicinity of panchayat forests. A biomass estimation survey was carried out in the Reserved forest also and it was found that the resource condition was similar to the panchayat forests. Average girth of the trees in the forests is less than 4 ft (1.2 mts) indicating that the trees are young (less than 20 years of age). Some features of Sirauli *Van Panchayat* are given in Table 4.3.1.

The sustainable produce from the forests of Sirauli *Van Panchayat* of timber is estimated at 76 tonnes per year and that of firewood at 19 tonnes per year. The firewood required by the villagers dependent on the forests for their day to day life is calculated to be 370 tonnes per year. Though the gap in the demand of firewood and supply from the panchayat forests is high, the villagers do not feel the stress because of the presence of good Reserved and Civil forests in the vicinity. For the locals, it is more convenient to get firewood from the Reserved or Civil forests than the panchayat forests as they are nearer and the forest guard is more often than not away as he has to cover a large area. (Table 4.3.2 and Table 4.3.3)

The number of livestock being high the villagers experience a stress for leaf fodder and grass for the animal feed. They get grass and leaf fodder from Reserved Forests which are at a distance of about 17 kms from the village. The quantity of grass obtained from the *Van Panchayat* forests is negligible when compared to the fodder demand for cattle of the village, which is estimated at 1226 tonnes per year.

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[3] Tun trees are considered to be one of the best trees for timber and are quite costly in the market.

Table 4.3.2 Volume distribution of different species in the forests of Sirauli Van Panchayat (cum)

Forest type (area, ha)	Growing stock of species
	Chir
Chir (51.2)	3183.5 ± 652.3
Average standing biomass 62.18 cum/ha	

Table 4.3.3. Total sustainable production of timber, fuelwood and fodder from the forest

	Sustainable proportion	Sustainable production	Fuelwood (m^3)	Timber (m^3)	Fodder (m^3)
Species					
Chir	0.02	63 67	12.7	50 9	0.0
Total			12.7	50.9	0.0

Sustainable production of smallwood/fuelwood	19.05 tonnes/yr
Sustainable production of timber	76 35 tonnes/yr

Assumptions:

1 The sustainable biomass production from the forests is taken to be 2% of the total biomass in the forest.

2 Of the total available biomass, 4/5th is the available timber and 1/5th is available fuelwood.

3 Since there are no fodder species present in the forest, the availability of leaf fodder is nil

4.3.4 Issues and discussion

The villages in the vicinity do not have good forests of their own, hence illegal lopping from the panchayat forest is high.

Though there is a women member in the panchayat, she does not have any knowledge of the working of panchayat; even the area of panchayat was not known to her The woman is the wife of an ex-Sarpanch who has now business interest in the town of Haldwani and lives there. She continues to be in the panchayat even though she does not attend any of the panchayat meetings.

The forests being primarily of *Chir* pine trees, the rightholders get only firewood and timber for their use. Resin is being tapped from the forests by the Sarpanch of the panchayat who has taken contract for the same from the Forest Department.

The grass for commercial purposes[4] used to be preserved in the lower parts of compartment no.1. This compartment is far from the village and the recent panchayats have not shown any keen interest. Hence, this practice has been discontinued.

A nursery has been started in the panchayat recently. This nursery would prove helpful in the afforestation programmes that the panchayat is planning to embark upon. The demand of the villagers is to have fodder trees in addition to other more beneficial species in the forest place of *Chir* pine. The *Oak* tree is considered as most important tree by the local people as it finds a multipurpose usage among the villagers.

The *Van Panchayat* Sirauli cannot be called a successful panchayat considering the management practices and people's participation in the management. The forest condition is relatively good, but this is due to other factors like presence of good Reserved forests in the vicinity and also the presence of only *Chir* trees in the forest. The rightholders tend to go to the Reserved forest for collecting the firewood as they are nearer to the village. Also there being no fodder tree specie in the forest, the panchayat forests are not much exploited.

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[4] The grass was protected and later sold to the rightholders at a price decided upon by the panchayat. Sometimes this grass was also sold to people from other villages with the consent of *Van Panchayat* and other rightholders.

The major issue in the Sirauli *Van Panchayat* is that of proper management of the panchayat regarding illegal lopping (for firewood and timber) and encroachments in the forest by the neighbouring villages as they very less forests of their own, especially in the far off compartments like no. 3. Another issue is that there is no check on the resin extraction method being carried out by the Sarpanch. The contractor stands to gain more by tapping more resin than the stipulated quantity and this is done by tapping resin from young trees unfit for tapping according to the Forest Rules and it harms the trees irreparably.

There have been very quick changes in the Sarpanchs in the last decade. This is due to the high factionalism in the village. This has led to a situation where the panchayat is less concerned about the welfare of forests and more about internal feuds. As already stated there is no involvement of women in the management of panchayat though the number of men staying in the village is substantially less than that of women.

4.4 Dole *Van Panchayat*

Dole *Van Panchayat* was chosen as it had a large forest area with mixed tree species (mostly Oak) and a fairly good condition of forest.

4.4.1 History of the Van Panchayat

In the year 1942, *Van Panchayat* of village Natadole was to be established. The villagers of Dole, *patti* Malla Salam, objected to the boundary of the *Van Panchayat* and gave an application to the same effect to FPO. The FPO did not consider their objection and the *Van Panchayat* Natadole was established. Then the villagers of Dole appealed to the DM, but he also rejected the objection. The appeal was then moved to the Court at Almora, but here too the verdict went against the villagers of Dole.

The villagers then appealed to the Civil Judge at Nainital where the judgement went in their favour. The Judge ruled that the land in which the Natadole *Van Panchayat* was established, belonged traditionally to the Dole village and the villagers of Dole could exercise their rights on the forest on these lands. It was further stated that the Natadole *Van Panchayat* would be affected by this judgement and their *Van Panchayat* would be considered as dissolved. The villagers of Natadole *Van Panchayat* appealed against this decision in the Supreme Court. Here too, the decision given by the Court below was held good and the disputed land was excluded from Natadole *Van Panchayat*. It was decided that the villagers of Dole could use the resources from the forests on these lands.

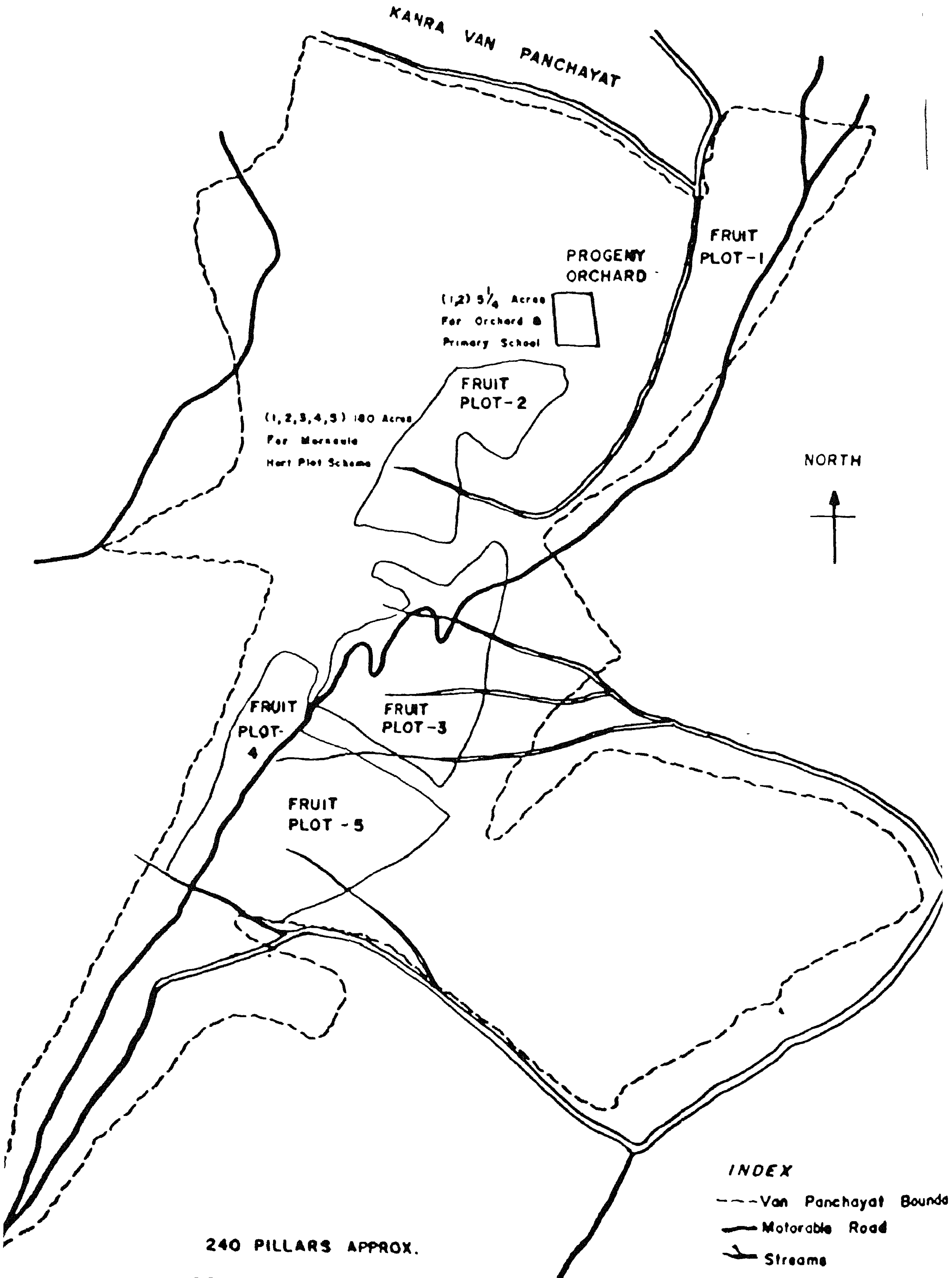
The villagers of Dole applied for formation of a *Van Panchayat*, in the year 1956, in the portion of Morpatyani class I Reserved forest that lie in their *Sal assı* boundary. Usual notices were issued to the adjoining villages so that if any other village had any objection regarding formation of *Van Panchayat* in this village could put up their point of dissent before the DM. The villages of Bachkande, Nirai, Kyeta, Syunani, Borgeon and Vare objected to the formation and wanted the rights of forest produce from the *Van Panchayat* to be available to them. The village Syunani was already having rights in the Kanra *Van Panchayat*, and any village cannot be given rights to two *Van Panchayats*. The rest of the villages,

since they exercised rights over the forest produce in this portion were included in the *Van Panchayat*. The elections were held and one panch each from Kweta, Bachkande and Nirahi and five panchs from Dole were elected to the *Van Panchayat*. After formation of *Van Panchayat* the panchs of Dole decided to exclude the right holders from other villages from the *Van Panchayat*, who resisted by appealing to the DM. This resulted in the suspension of the *Van Panchayat* till a satisfactory compromise was effected. On 27.12.1957 the panchs settled their differences and agreed to allow usufructary rights to the neighbouring villages. Thus even though Dole *Van Panchayat* is a single village panchayat with a large number of people dependent on it, the usufructary rights have also been given to neighbouring villages and hamlets with whom the panchayat has a long history of conflicts over these rights.

Dole village has an independent *Gram Sabha* with about 290 families. This village represents social diversity in terms of settlement of houses (with *Chakbandi*[1] pattern), social composition, and land ownership. The village has several hamlets[2] which are essentially made up of people from different castes. The main cluster consisted of about 175 Rajput families. A total population of 1881 from all the hamlets are dependent on the panchayat forests. Most of the agriculture in the region is rainfed. The major crops taken are of wheat and potato, and in addition, fruits such as Apple, Peach and Plums are grown in the village. Villagers use dry leaves of *Burans* as a manure for major crops.

Chakbandi is a system of demarcating land areas in the village, in which the families demarcate the lands adjoining their homesteads and carry out agriculture, horticulture etc. These land pieces belong solely to the owners and were decided upon long back

The hamlets of a village are separate clusters of families generally separated from the main village by a short distance. Though these clusters may have an informal head, they are a part of the main village *Gramsabha* and the Rvenue Department considers them to be one village



Map 4.4

DOLE VAN PANCHAYAT

The *Van Panchayat* is situated 24 km to the east of Almora town, on the Almora-Shakarphatak-Haldwani motor road. Most of the forest land is located on gently sloping hills, at an average height of 1887 m above the mean sea level. The total area of village is 829.18 ha and 444 ha is under *Van Panchayat*. The whole of the forest lies in one block and is divided into five compartments. The 5th compartment was added in 1973 (refer Map 4.4). The major tree species in the forests of Dole *Van Panchayat* are Oak and Chir. Of the other species present, Deodar and Burans are prominent

Table 4.4.1. Dole *Van Panchayat*: Some Features

Altitude	1800 mts above msl
Total area	440 hectares
Major species	Mixed
Number of villages	1, with usufructary rights to 4 other villages
Total agricultural area	218.65 ha
Population dependent	1881
Livestock dependent	1856
Total production from forest	
Grass	nil
Fuelwood	513 tonnes per year
Timber	23 tonnes per year
Leaf fodder	717 tonnes per year
Any other	nil
Crop residue from agriculture	656 tonnes per year
Total consumption in the village	
Fuelwood	854 tonnes per year
Fodder	2778 tonnes per year

4.4.2 Decision making arrangements

The management plan as decided on the date of formation of *Van Panchayat* is briefly summarized below (refer Proceedings of Panchayat meeting dated 24.03.1957):

1. This *Van Panchayat* would be in one block as indicated in the map. The part of the forest adjoining Kanara *Van Panchayat*,

which has been left out, would be taken care of by both Dole and Kanara *Van Panchayats*. After the map and khasra etc. of the *Van Panchayat* have been received, the FPO would be asked to join the above mentioned area in Dole *Van Panchayat*. The whole of *Van Panchayat* would be kept open for grazing. When needed, the rightholders would be allowed to harvest *Oak* leaves during winter. The loppers of leaves would be allowed to cut the leaves only from the bottom 1/3 part of the tree, and any branch thicker than a finger would not be allowed to cut. The compartment in which lopping had been carried out would be kept closed for lopping for the next two years and non concurrence to the rules would be punished The rightholders would have no bindings for taking the fallen twigs, branches, leaves and *pirul*[3] from the forest. The villagers of Dole do not find any use of pirul as they use dry leaves of Oak and Burans for manure etc.

2. The rightholders of the *Van Panchayat* would be the residents of villages Kweta, Dole, Varegaon, Nirahi, and Bachkande who would be sharing all the expenses of the *Van Panchayat*[4]. The panchayat would keep a record of all the rightholders from each of the member village that has rights in the *Van Panchayat*.
3. On receiving map and khasra, the panchayat would make new boundary pillars and repair the old ones for the *Van Panchayat*'s boundary and put numbers on them.
4. Mr. Madan Singh of Dole village was appointed guard of the *Van Panchayat* at a salary of Rs 20 00 per month. He would be accountable to the panchayat and the panchs of the *Van Panchayat*.

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[3] *Pirul* are the dry pine needles that fall from the *Chir* trees. The disadvantage from these is that they increase the acidity of the soil which adversely affects the growth of forest. These needle shaped leaves do not allow rain water to enter the soil. Also the dangers of fire are more in pine forests. These are generally used as manure and for spreading on the ground for the animals during winter

[4] The residents of these villages have the rights to the forest produce of Dole Forest Panchayat only after they have the permission of panchayat and they pay up the requisite amount.

5. To sell trees to people other than rightholders and to spend the money of *Van Panchayat* for public welfare, decisions would be taken only after the permission from FPO.
6. The meetings of the *Van Panchayat* would be held as and when needed The information regarding the meeting's place and time would be given to the sarpanch, panchs by the guard. In the meeting, expense-income statement would be the first thing on the agenda, which would be explained by Sarpanch to the panchs. All the expenditure of the panchayat would be done by the consent of the panchs but the Sarpanch has the rights to spend Re.1/- per month for stationery and postage. For all the incomes of the panchayat a bill would be issued and for all expenses also the bills would be received. On the basis of these, the income-expense register would be maintained. At the end of month, Sarpanch would submit a report to the FPI regarding the *Van Panchayat* on a prescribed format.

In 1958, villagers of Dole applied to the FPO for addition of the disputed part, which was earlier with the Natadol *Van Panchayat*, and the Court of Civil Judge, Nainital, had given a ruling in their favour. This application was considered and the disputed area was included in the Dole *Van Panchayat*. In a meeting after the expansion of *Van Panchayat*, the following working plan for the Dole *Van Panchayat* was decided upon.

1 The *Van Panchayat* would be in one block. The boundary of *Van Panchayat* would be demarcated as follows. On the East the foot road of Arukhon to Gajar, on the West, *Van Panchayat* of Natadole and Nala of Dhargad, on the South foot road from Moranaula to Bhimtal and on the North Moranala of Udisani to plot no.7 of Natadole would constitute the boundary of the *Van Panchayat*.
2. All the rightholders in the village would also have the rights in the newly added part of *Van Panchayat*.
3. All pathways leading to water spring, temple, will be open for all rightholders.

4. The forests are degraded and the development of the same is imperative. Panchayat would take necessary steps and close parts of forest for grazing and lopping in a cyclic rotation. One dead or dry tree would be available, on demand, to the rightholders from the *Van Panchayat*.
5. During the inspection of the panchayat area, encroachment were found in many parts of *Van Panchayat* and it was decided to take stringent measures against encroachment.
6. An additional guard will be appointed for the area added to the *Van Panchayat*.
7. After the formal orders of formation of panchayat are issued, panchayat would have the map drawn of the new *Van Panchayat*, and new boundary pillars would be constructed.
8. Panchayat would make plans for development of *Van Panchayat* after receiving the orders from FPO.
9. The major tree specie in the *Van Panchayat* is *Banj,* the next being *Chir.* The total number of *Banj* trees in the forest, as determined in a counting exercise carried out while the formation of *Van Panchayat*, is 7000, and that of *Chir* trees is 3000.
10. Panchayat can impose fines upon person(s) exploiting the forest resources without the permission of the panchayat.
11. Panchayat cannot sell the trees from the forests without a prior permission from the FPO.

The panchayat takes Rs. 25/- from the rightholders for allowing them to collect dry, fallen leaves from the forest. They issue a pass which is valid for three months. Another source of income for the panchayat is the sale of passes for *Jhula*, which the rightholders collect from the forest. These passes are also issued for three months for a fee of Rs. 250/- per person. Similar passes are issued for collecting grass and leaf fodder from the forest at the rate of Rs. 50/- per pass for the season. The major source of income for the panchayat was Resin sale, the tapping of which has been discontinued since 1992. Panchayat also sells the timber to the rightholders at a nominal charge.

In 1986 the income from the sale of resin alone was Rs. 15,000/-, which was spent in purchasing common property for the village viz., tents, large utensils etc for the purpose of marriage etc.

The panchayat has closed the compartments for regeneration by imposing a ban in lopping for green fodder and twigs. This ban is lifted for a specific time (generally during the months of November and December), in specific compartments, which is decided in a panchayat meeting, and rightholders are allowed to harvest green leaves and grass from the forests. Panchayat imposes fine on the defaulters after the consent of all panchs. The guard has powers to seize the equipment of any person found illegaly in the forest and report to panchayat. The *Van Panchayat*, with whole group (panch mandal) including Sarpanch, decide in a meeting to impose penalty in terms of money, which is one of the resources of *Van Panchayat*.

4.4.3 Resource condition

Of the five compartments, three are populated with *Banj* and associated species. Compartment no.1 contains a mixed variety of tree species with Banj, Burans and Chir as the major ones, whereas Deodar and other pinus species were found in one compartment. The adjoining forests are Reserved Forest and *Van Panchayats* of nearby villages i.e. Gajar, Kashare etc.

Though the general condition of the forests is good (the standing biomass in the forests was estimated at 64.3 m^3/ha, Table 4.4.1), some parts (East Southern) of *Van Panchayat* are degraded which are open for grazing. Here *Oak* and associated species survive as small shrubs. The *Deodar* trees are present in the forest, but being a protected species, they cannot be cut either for firewood or for timber. Several elderly persons from the village recounted that earlier the forests were dense and were populated with variety of animals and plants.

The sustainable supply of timber from the forests is around 23 tonnes per year (refer Table 4.4.3). The total demand of fuelwood for cooking and space heating for the villagers of Dole is around 855 tonnes per year, whereas the total sustainable supply of fuelwood from the forests of Dole *Van Panchayat* is estimated at 367 tonnes per year. Similarly the demand for fodder for the cattle population dependent on the forests is around 2778 tonnes per year, whereas the sustainable supply from the forests is only about 717 tonnes per year (Table 4.4.3). The gap observed in supply and demand of the essential resources is fulfilled by the agriculture system and also to some extent by the Reserved Forests.

Table 4.4.2. Volume distribution of different species in the forests of Dole *Van Panchayat* (m^3)

Forest type	Growing stock of species (m^3)			
	Deodar	Oak	Chir	Others
Deodar (22.2)	15987.6 ± 2515.7	119.8	24.5	29.5
Oak (266 4)	0.0	39596.7 ± 31145.8	399.8	12615.9
Chir (44.4)	0.0	414.4	7271.2 ± 3408.4	57.7
Others (88.4)	41.4	159.8	0.0	11603.2

Table 4.4.3 Total sustainable production of timber, fuelwood and fodder from the forest

Species	Total in the forest (m^3)	Sustainable proportion	Sustainable production (m^3)	Timber (m^3)	Fuel wood (m^3)	Fodder (m^3)
Deodar	796.315	-	-	-	-	-
Oak	23903.17	0 01	239.0	0.00	239.0	478.0
Chir	969.47	0.02	19 4	15 51	3.9	0.0
Others	9901.8	0 01	99.0	0.00	99.0	0.0
Total				15 5	341.9	478 0

Sustainable production of fuelwood	341 9	cum
	512.85	tonnes
Sustainable production of timber	15 51	cum
	23.265	tonnes
Sustainable production of fodder leaves	478	cum
	717	tonnes

Assumptions

1. Of the total forest area, Oak is in 60%, Chir is in 10%, Deodar is in 5%, others in 20% and 5% area is vacant.
2. The sustainable production of biomass from species other than Chir pine is 1% of the total standing biomass
3. The sustainable production of biomass from the Chir species is 2% of the total production
4. Of the total sustainable production 4/5th is the timber and 1/5th is the fuelwood.
5. Deodar being a protected species, is not considered while calculating the sustainable production of either fuelwood or timber.

Most of the livestock in the member villages are stallfed and are not left for free grazing.Some parts of the forest which are opened for grass or leaf fodder are being lopped by villagers to fulfill their needs of fuelwood and fodder. These forests are being degenerated as the villagers take advantage of no restrictions in going to the forest for lopping leaf fodder and fuelwood. Regeneration of *Chir* can be seen in many parts of forest and *Chir* is replacing the *Oak* and associated species is few parts of forest.

Table 4.4.4 lists the local forest species with their importance (ranking) as given by the village women.

Table 4.4.4. List of forest species ranked according to importance.

Species	Timber	Fuel wood	Fodder	Fruits	Medicine	Other benefits
Quercus semicarpifolia	xxx	xxxxx	xx			
Quercus leucotricophora	xxx	xxxxx	xxx			
Quercus floribunda	xxx	xxxx	xxx			
Pinus roxburghii	xxx	xxxx			x	xxx
Lyonia ovalifolia		xxxxx	xxxx			
Pyruspashia	xx	xx			x	
Myrica nagi	x	xx		x		
Rhododendron arboreum		xxx	xxx		x	
Aesculus indica	x	xx				
Alnus nepalensis		xxx				

* the number of x's indicate the importance that the villagers attribute to the use of different tree species, rankwise.

4.4.4 Issues and discussion

Though the forest area is large with a high density of Oak and related species being present in the forest, the shortage of fuelwood and fodder is being felt by the people dependent on these forests. Much of the forest area has been seriously damaged by heavy and unchecked lopping. At present due to a ban on cutting or collecting the green leaves, villagers find it difficult to fulfill their fodder requirement. They go to these forests illegaly and cut the trees.

In a discussion with the villagers, it was pointed out that the present panchayat is not taking keen interest in *Van Panchayat*'s matters. Though the leadership of the present Sarpanch is considered as fair by the villagers, there is some dissent, regarding the tough stand taken against encroachments and illegal lopping, by the Sarpanch. Since the last two years, some efforts have been made by the panchayat for forest regeneration by protection and completely banning of lopping in few patches of forest. This activity has led to some good results, and the crown cover of these patches has improved. Due to increasing incidents of encroachments and illegal lopping, the villagers have applied for the sanction of money from their resin royalty account at the DM's office for the construction of boundary pillars (refer proceedings of panchayat meeting dated 6.9.92). The initiatives taken by the present Sarpanch to curb illegal lopping and encroachments have led to the betterment of the *Van Panchayat*. Though there is some antagonism against the Sarpanch, he is accorded due respect by the villagers for the efforts that he puts in for the protection of forests.

The amount of fines that are to be recovered from the illegal loppers etc is Rs. 2088. This amount has been outstanding since 1986 and the issue has been raised in many subsequent meetings, without any effect.

The case study highlights the fact that even though the forest area is quite large with a fairly good forest, it still is inadequate to fulfill the rightholders' demands of fuelwood and fodder. Over time, the tree species' availability and the demand have been changing while the management is being carried out in the same fashion.

4.5 Vijepur *Van Panchayat*

The *Van Panchayat* of Vijepur is studied with a focus on the following aspects:

i. The presence of a large forest in the *Van Panchayat*
ii. The absence of good forest (Reserved or Civil) in the vicinity.
iii. The absence of *Van Panchayats* in the nearby villages.

4.5.1 History of the Van Panchayat

The Vijepur *Van Panchayat* falls under the Ranikhet tehsil of Dwarahat block in Almora district. It is a newly formed *Van Panchayat*. The first panchayat elections were done in 1972 and a five member committee was elected. This was headed by Shri Haridutt, who was designated as their Sarpanch. However, the orders for formation were passed by the District Commissioner only in 1974. Initially only 40 ha of civil forest was approved for this purpose. This was further enhanced in the year 1982, with the addition of another 211 ha of civil forest.

The village Vijepur is approximately 32 kms North-West of Ranikhet at an altitude of about 1200 m above the mean sea level. Three villages fall under the jurisdiction of this *Van Panchayat*, namely, Vijepur, Aagar and Ghaglodi. All the three villages are situated at a distance of 2-3 kms from Dwarahat, the main market place for these villages. Vijepur is a relatively large village with the total population being 892. On the other hand the joint population of the remaining two villages is approximately 650. While the people in Vijepur and Ghaglodi are of higher castes, the people living in village Aagar are of scheduled caste. This village is also recognized as Ambedkar[1] village. The gram panchayat of Vijepur includes four villages, namely, Vijepur, Aagar, Ghaglodi and Dhankal. Of these villages, the total population of Vijepur and Aagar (about 230 households) are the right holders in the Vijepur

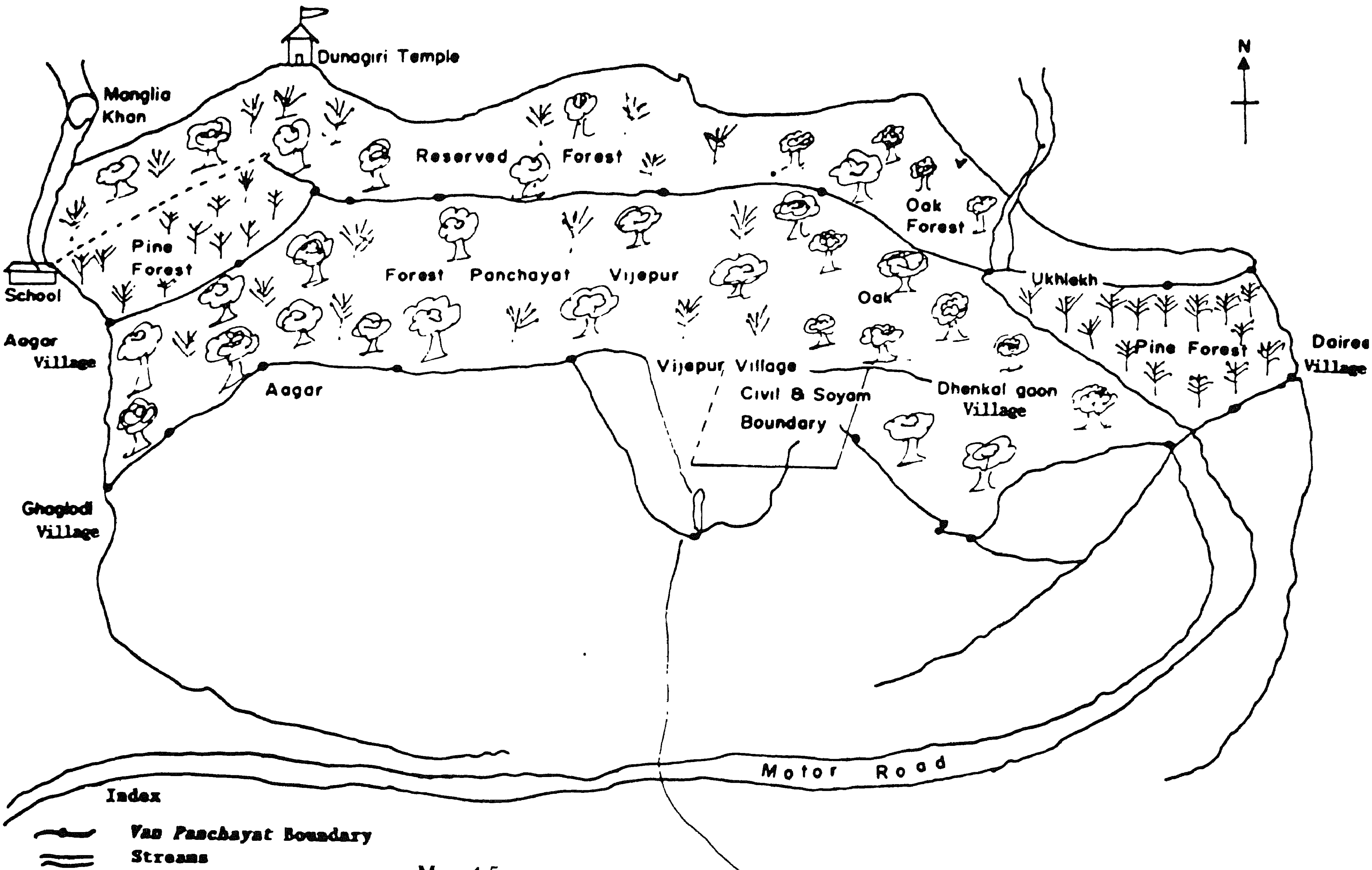
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Sri Baba Saheb Ambedkar was a great freedom fighter who also worked for the upliftment of the scheduled caste people. The state government of U.P. has recognized one village in each district of the state as Ambedkar Village. This village is given special priority from the state for implementing the developmental activities in that village.

Van Panchayat, whereas only 25 households of Ghaglodi, have the right to the produce in this *Van Panchayat* because of the boundary reasons.

Although the economy revolves around agriculture, many villagers supplement their income through shops in Dwarahat. Contrary to the practice of out migration that is prevalent in this region, the number of people doing so in these villages is considerably low. This could be attributed to the presence of a large market place in the vicinity which provides adequate opportunities to augment their income from agriculture. Dwarahat also boasts of an Engineering College and a Polytechnic besides a Degree College. There are many schools, both senior secondary and other levels in the block. Thus the literacy level in the area is considerably high as compared to the other parts of Kumaon. Besides this the level of awareness among the people regarding conservation and other matters was also found to be quite high.

The Vijepur *Van Panchayat* is spread over an area of 251 hectares of forest land. For the purpose of ease in managing this, whole forest area is divided into five compartments. The panchayat forests are mainly on the Southern aspect, where they receive plenty of Sun. Mean height of the forests in the Vijepur *Van Panchayat* is approximately 1370 mts above the mean sea level (refer Map 4.5).



Map 4.5

VIJEPUR VAN PANCHAYAT

Some basic features of Vijepur *Van Panchayat* are given in Table 4.5.1.

Table 4.5.1. Vijepur *Van Panchayat*: Some Features

Altitude	1200 mts above msl
Total area	251 hectares
Major species	Mixed (Oak & Chir)
Number of villages	3, of which only 25 households of one village
Total agricultural area	95.91 ha
Population dependent	1210
Livestock dependent	1920
Total production from forest	
Grass	126 tonnes per year
Fuelwood	54 tonnes per year
Timber	16 tonnes per year
Leaf fodder	87 tonnes per year
Any other	nil
Crop residue from agriculture	656 tonnes per year
Total consumption in the village	
Fuelwood	1218 tonnes per year
Fodder	2828 tonnes per year

4.5.2 Decision making arrangements

The panchayat of Vijepur *Van Panchayat* consists of 9 members of which two are from village Aagar, representing the backward classes. The rest of the members of the Panchayat are from the other two villages. At present there are no women in the panchayat. The last elections were held in the year 1991.

The membership in the *Van Panchayat* is restricted only for the persons residing inside the *sal assi* boundary of the village (the 25 households of village Ghaglodi are the members because they lie inside this boundary). If a new person purchases land in the village, the membership of the *Van Panchayat* is automatically granted to him.

The forests being quite near to the market place, the chances of illegal lopping for sale in the local market, increases. The *Van Panchayat* being quite large it is very difficult for the watchman to guard the whole area of forest[2]. The Panchayat employs a guard all through the year to protect the forests. The salary of the guard is fixed at Rs.750/- per month. The salary of the guard is paid by the rightholders who pool in some amount every month for the purpose.

The fine imposed on the offender, caught in the forest by the guard or any other person, varies according to the device that the person takes into the forest. The fine for a small sickle is Rs.5.00 only whereas for a larger sickle, the fine is Rs.25.00, and for any other implement like an axe, the fine imposed amounts to Rs.50.00. The guard, when and if catches any offender, confiscates the implement and reports to the panchayat which retains the implement. The offender is issued a notice to appear in the panchayat meeting, where the fine to be imposed on the person is decided upon by the panchs according to the offence.

The dry or dead trees are given to the rightholders as and when they need them for construction, repairs of their homes or for any event like marriage or death. Even in the absence of any dry or dead tree in the forests, the rightholders get one tree per year for fuelwood purposes on the payment of a sum of Rs.50/- per tree. The present panchayat which came into power an year ago, has stopped this practice of giving one tree per year to all the rightholders. At present only those rightholders who have a genuine reason, like a marriage or some ceremony os for cremation, get the tree for which they have to get endorsement from the other *panchs* of panchayat.

The panchayat's forests are open for lopping leaf fodder twice, in the month of April-May and again in October-November. The rightholders are entitled to go to the forests once a day for the entire length of period that the forests are open for lopping. The conditions being that

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2 The area that the watchman can guard depends on the topography of the region and stretch of forest. According to the Government rules, for every 30 ha of plantation there has to be one guard. But for a forest panchayat one person can effectively guard 70-100 ha of forest area depending on the topography

only one member from a family would go to the forests and the person would not cut any branch thicker than the thickness of two fingers. The forests are opened for grass in the month of September, and are kept open till the grass lasts. To be able to harvest grass from the *Van Panchayat*, the rightholder has to pay Rs.10/- per family for the entire season. This entitles one member from the rightholder family to go to the forests once in a day and harvest a headload of grass.

4.5.3 Resource Attributes

The major species found in these forests are that of *Oak*, which covers approximately in 3/4th of the forest area and *Chir*, which is found in about 1/4th of the area. Of the approximate area under *Oak*, 1/3rd is under the regeneration and the rest has a good crown cover. In the *Chir* forests about 1/2 the area has a good forest. When first formed in 1975, the trees of the *Van Panchayat* were counted and the number of trees was found to be 3943. The average growing stock in the forests of Vijepur *Van Panchayat* is only 16 m^3 per hectare. There are areas in the *Van Panchayat* where the grass is preserved for use as fodder in the lean months. The approximate area under grass was estimated at 7% of the total forest area, that is, around 18 ha. The productivity of grass in the forest was estimated at 7 tonnes per hectare. The Reserved Forests next to these Panchayat Forests do not have a good vegetation but the Reserved Forests at *Dunagiri* and *Pandukholi*, about 15-17 kms from the villages, have forests with a very good crown cover. The villagers (mostly women) go to these forests to fetch leaf fodder and firewood (Table 4.5.2 and Table 4.5.3).

Table 4.5.2. Volume distribution of different species in the forests of Vijepur *Van Panchayat*

Forest type	Growing stock of species (m^3)			
	Chir	Oak	Burans	Others
Chir (56.5)	2498.90	3.80	0.00	0
Oak (169.5)	27.40	3881.00 ± 2234.60	524.50	83.6

Weighted average of total biomass in the forest 4013.1 m^3
Average growing stock in the forest 16.0 m^3/ha

Table 4.5.3. Total sustainable production of timber, fuelwood and fodder from the forest

Species	Total in each species	Sustainable proportion	Sustainable production	Timber (m^3)	Fuel wood (m^3)	Fodder (m^3)
Chir	654.25	0 02	13.09	10.47	2 62	-
Oak	2911.72	0.01	29 12	-	29 12	58.23
Burans	393.38	0.01	3.93	-	3.93	-
Others	62.70	0.01	0.63	-	0.63	-
		TOTAL PRODUCTION (m^3)		10.47	36.30	58.23
		TOTAL PRODUCTION (tonnes)		15.70	54.45	87.35

Assumptions:

1 The fuelwood (sustainable) is 1% of the total woody biomass from the forests other than the Chir forest.

2 The woody biomass available (sustainable) from the Chir forests is 2% of the total biomass. Of this 4/5th is the available timber and 1/5th is the available fuelwood.

3 The leaf fodder (sustainable) availability from the forest (oak) is double that of the fuelwood production from the same

The total fuelwood consumption of the population supported by the Vijepur *Van Panchayat* is estimated to be 1,219 tonnes per year, whereas the total sustainable supply from the forests *Van Panchayat* Vijepur *Van Panchayat* is to the tune of only 55 tonnes per year, which can be considered to be negligible. This large gap in the demand and supply of fuelwood alone is an explanation for the rapidly depleting forests. Most of the demand of the locals is met through the Reserved Forests, though they also use some agriculture residue as fuel for cooking and space heating. Similarly the leaf fodder supply from the forests of Vijepür *Van Panchayat* is about 87.35 tonnes per year, in addition to 126 tonnes of grass, while the total demand for same for the cattle in these villages is approximately 2830 tonnes per year. Again, the majority of this demand-supply gap is filled by the Reserved Forests and the agriculture residue of the crops. This situation of dependence of a large population on the forests which cannot sustainably produce the fuelwood and fodder requirements, leads to overexploitation of forest resources.

Estimation of extraction of grass and leaves from the forest

To calculate the actual amount of grass and leaves being extracted from the forests, some assumptions (based on discussions with the villagers and observations) have to be made. These are as follows:

- For grass, the forest is kept open for as many days in an year till the grass lasts. So the extraction is the same as the production from the forest.
- The forest is kept open for leaf fodder till the panchayat decides that it is safe for the forest, and this is generally for 20 days in two seasons. Here too, almost 100 families go to the forest daily for harvesting. The weight of each headload is almost 25 kgs.
- Since the timber is given only on demand, nothing is fixed as to the quantity harvested per annum. Similarly for the firewood, the dry and fallen twigs/branches can be collected free from the forest.

Total extraction from the forest:

Leaves	100 x 25 x 40 =	100.0 tonnes per annum

The above calculation shows the amount of excess biomass that is being extracted from the forest. The forests of Vijepur can sustainably supply only 87.35 tonnes of leaf fodder whereas, the extraction (with legal sanction of panchayat) is to the tune of 100 tonnes per annum. If the quantity of fodder illegaly lopped from these forests is also taken into account (which would be comparable to what is extracted legally), given the total demand for fodder, then the scenario is much worse for the regeneration of the forests.

Estimation of income and expenditure of Vijepur *Van Panchayat*

The sources of income of the panchayat are as follows:

- Grass @ Rs. 10.00 per family (all 255 families pay for the guard)
- Timber @ Rs. 50.00, on demand (assumption: 10 rightholders are given trees in an year)
- Leaves @ Rs. 25 00 per rightholder (two seasons) (assumption: 150 rightholders avail it in both the seasons)
- Resin - not available
- Fines etc.: Average Rs. 15.00 per incident (assumption: 7 cases get reported per month and pay fines)

The expense heads of the panchayat are:
Guard @ Rs. 750.00 per month
Stationery @ Rs. 50.00 per month
Miscellaneous Rs. 15.00 per meeting

Total income:

Grass	Rs. 2,550.00
Leaves	Rs. 7,500.00
Fines	Rs. 1,260.00
Timber	Rs. 500.00
Total	Rs. 11,800.00

Total expenditure:

Guard's salary	Rs. 9,000.00
Stationery etc	Rs. 600.00
Miscellaneous	Rs. 180.00
Total	Rs. 9,780.00

Surplus (income - expenditure) Rs. 2020.00

The above calculation show that the panchayat does not have a very large surplus amount in an year and hence for any developmental work in the panchayat, it will have to rely on the resin funds that are deposited at the DM's account. But still, the panchayat is viable as it is able to meet all its expenses on its own resources.

4.5.4 Issues and discussion

The major problem faced by the villagers in this area is that of drinking water. The locals ascertain that there was plenty of water in the old days, but due to indiscriminate felling of trees, the water has become scarce in the area. It is believed that the Oak and Burans trees help in storing and increasing groundwater[3]. The forests are not able to support either the fodder or the fuelwood requirement of the people in these villages. The villagers have to go to the Reserved Forests of Dunagiri and Pandukholi, which are at about 15 - 17 kms from these villages, for fodder and firewood. These people (mostly women) start from home at around 0400 hrs and come back from these forests at around 1700 - 1800 hrs. The average weight of the load of firewood that these women carry is around 30kgs (actual measurement at the spot). Because of the large distances involved, the family members of these women come halfway, in the evening to carry their headloads home.

There has been no direct and scientific evidence of this fact, but this has been observed that the Oak forests have more water than pine forests. The roots of Oak, as ascertained by the locals, are believed to store water and release it slowly

The area of the *Van Panchayat* being large, the chances of intrusion by the neighbouring villages (who doesn't have any forests of their own) increases. The *Van Panchayat* employs one guard to protect the forest which is inadequate for the job, and the *Van Panchayat*'s income doesn't allow for more guards. This acts as a temptation not only for outsiders, but also for the rightholders to lop for fodder and firewood illicitly. To overcome this problem, the present panchayat has made a bylaw that a person can file a report against any other person whom he or she finds in the forests without the authorization from panchayat, and this person would be awarded half the fine amount that the offender is charged by panchayat. There have also been instances when the villagers try and bribe the guard so that he would turn a blind eye to their misdeeds (there has also been an incidence, around 3 years back, when the women tied the guard of the Reserved Forest to a tree when he caught them in the act of illicitly lopping the trees for firewood, and carried on with their work).

Due to the deteriorating condition of the forest, the Civil and Soyam Department is carrying out plantation of saplings in areas where the density of trees in forest is very less. These plantations are being done by the department since 1980-1982 through the ADO (Agricultural Development Officer) who does the survey of area where plantation work has to be carried out and proposes the work plan to the District Magistrate along with the Panchayat's approval and an approximate budget. The DM after approving it in consultation with other departments, sanctions the requisite amount. Three plantations have been done by the department but the results have not very encouraging.

The reasons enumerated for this, by the ADO and the watchman at the department has appointed to safeguard the plantations, were as follows.

- The department has a target oriented approach, and does not go by any specific plans for these plantations. The department has to carry out plantations in 30 ha and getting a single stretch of 30 ha of deforested area in the hills is very difficult, so the plantations are carried out at different places without taking into consideration of suitability of the specie. For example, there are at present three plantations, two in Vijepur *Van Panchayat* and one in the neighbouring *Van Panchayat*.
- Secondly, the villagers' apathy towards saving these plantations. They do not consider these plantations as their own property. The department also constructs boundary walls around the plantations, but the villagers breach them and the cattle are allowed to graze in these lands. Though there is a guard for this specific purpose, but the area which he has to cover is very vast. The distance between any two plantations is a minimum of 8 to 10 kms, which makes it very difficult for the guard to cover all the plantations.

Presently the number of offenses often go as high as 20-25 in a given month. Since not many of the offenses are major, even though many of the offenders do not pay the fine imposed on them, the panchayat does not go to the trouble of reporting to the FPO. The procedure to bring the offender to pay a nominal sum as fines is too cumbersome, time consuming and does not always prove effective. In other cases, like encroachments, the offender agrees in the SDM's court that he would do according to the court's directive and vacate the encroached area, but continues to hold the land as private land. The SDM or the Patwari do not come to the specified site to verify whether the court's directive has been implemented upon, the sites being far from the road and not easily accessible.

Though the area of forests in the Vijepur *Van Panchayat* is large, the number of rightholders that the panchayat supports, is also quite large. The resource condition of the forests in the Vijepur *Van Panchayat* is poor (approximately 18 cum/ha). The present panchayat and even the villagers are beginning to realize the importance of forests in their livelihood. The panchayat has assumed a tough stand against the practice of illegal lopping from the panchayat forests. The practice of one pine tree from the forest per year to every family has also been abolished from this *Van Panchayat*.

The suggestions that came up during the meeting which the study team had with the villagers are:

1. The extraction of resin should be handed over to the panchayat.
2. The royalty amount from the sale of resin should be given to the panchayat and the panchayat should have the authority to spend a part of it on general developmental works. Also, the proportion of the royalty that the panchayat receives should increase.
3. The panchayat should be given more judiciary powers so that the process of punishing the guilty becomes easy. The amount of fine that the panchayat can levy on an offender without the prior permission of D.C. should be increased to Rs.500/- from the current amount Rs.50/-, which is inadequate.
4. Alternate sources of energy which are cost effective, should be made available to the locals so that the destruction of forests is reduced.
5. The afforestation is being carried out by different agencies, and there is a lack of supervision and coordination in them. All the plantations in the forests should be carried out by a single agency.
6. Efforts should be made to introduce horticulture and scientific animal husbandry in the hills.

4.6 Gaudihat (Pithoragarh) *Van Panchayat*

Gaudihat *Van Panchayat* was selected for a case study because of the following features.

- The remoteness of the *Van Panchayat* (accessibility).
- Presence of varied species of trees (shorea robusta, acania catechu, Pinus roxbugrhii) in the forest.

4.6.1 History of Gaudihat Van Panchayat

The villagers submitted an application for the formation of a *Van Panchayat* to the FPO in the year 1967. Their contention was that in the absence of a proper system of management and protection, the forests were being indiscriminately exploited by the villagers for fuelwood, fodder and timber. The people of an adjoining village, Valtadi objected to the formation of a separate *Van Panchayat* on the grounds that they had historical rights over the fodder, fuel and grazing lands of the proposed *Van Panchayat*, as these people had their homesteads inside the boundary of the proposed *Van Panchayat*. Mr. Bhawan Singh of village Rajyuda also objected since they had a grant[1] in the proposed *Van Panchayat*. Due to lack of proof the villagers of Valtadi could not prove their objection. The Rajyuda village boundary was kept outside the proposed *Van Panchayat*'s boundary. The FPO rejected both the objections (dated 29.8.68) and decided to permit people from both the villages only for grazing and fodder in the proposed *Van Panchayat*. The villagers of Valtadi would have to deposit a certain amount which will be decided by the *Van Panchayat*, for the usage of the produce from the forests. *Van Panchayat* Officer also decided that the villagers of Rajyuda and Gaudihat should have mutual rights in each others' *Van Panchayats*.

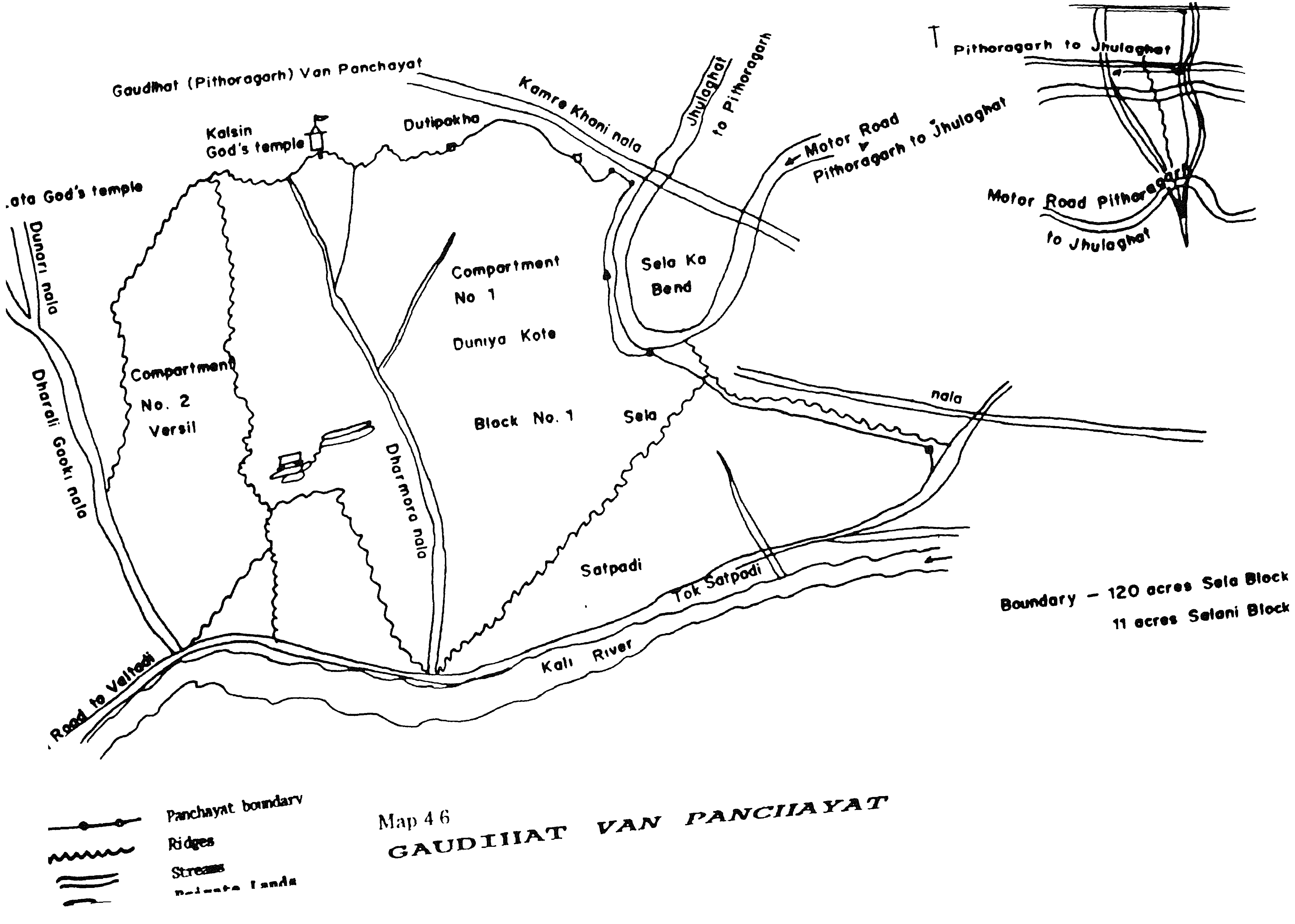
The proposed *Van Panchayat*'s land area was inspected by the *Amin*(land inspector) in the presence of villagers. He prepared the map and the *khasara*[2] of the proposed *Van Panchayat*. Though the formal

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[1] The grant land is the one, the usufructation rights of which are granted to a certain individual or a group of individual like a village by the British Government

[2] Khasara is a document which describes in detail the boundary of any area in terms of physical landmarks.

order of formation was given by the D.C. only in 1970, the first elections of the Panchayat were held in early 1968, within months of submitting the application for formation of a *Van Panchayat*. Originally in the year 1967 village formed a *Van Panchayat* in 52.8 hectares of civil forest land and later in the year 1989 another 70 hectares of civil forest land was converted into *Van Panchayat*. The proposal for this additional land was submitted by the villagers in 1984 and sanctioned by the DM in 1985. Gaudihat *Van Panchayat* is a young *Van Panchayat* and has completed 25 years of its existence in the year 1992. It consists of two *Van Panchayats* (Gaudihat and Rajyuda) with same *van mandal* (6 members with sarpanch from Gaudihat village, 3 members from Rajyuda village) managing the *Van Panchayat*. The Panchayat's forest spreads over an area covering two villages, 123 hectares in Gaudihat and 20.4 hectares in Rajyuda village. The forests under Gaudihat *Van Panchayat* are located between the altitude of 1050 m to 1350 m above the msl. The boundary of the panchayat is demarcated by the Satpadi river on the southern side and by ridges on all other sides (refer Map 4.6). The different blocks and compartments have also been demarcated keeping in view the natural boundaries like ridges and streams.



Map 4.6
GAUDIHAT VAN PANCHAYAT

The *Van Panchayat* is situated in Pithoragarh District, 16 km. from Pithoragarh town on the Pithoragarh-Jhoolaghat motor road. It has a common boundary in Kali river with Nepal The village Gaudihat consists of a number of small settlements. The villages Valtadi, Rajyuda and Satpadi have a common boundary with Gaudihat. The village has a small market place and also a primary school. Majority of the population in the village is that of *Rajputs (Hissedars)* and others are *Khaikars (SC)*. The major occupation of the people is agriculture along with animal husbandry. As is common in most of the villages in hills, many men from the village are employed in the defence services.

Some basic features of Gaudihat *Van Panchayat* are given in Table 4.6.1.

Table 4.6.1. Gaudihat *Van Panchayat*: Some Features

Altitude	1370 mts above msl
Total area	122.8 hectares
Major species	Mixed (Sal, Khair)
Number of villages	2
Total agricultural area	42.49 ha
Population dependent	1012
Livestock dependent	854.5
Total production from forest	
Grass	285 tonnes per year
Fuelwood	7 tonnes per year
Timber	18 tonnes per year
Leaf fodder	5 tonnes per year
Any other	nil
Crop residue from agriculture	127 tonnes per year
Total consumption of the rightholders	
Fuelwood	136 tonnes per year
Fodder	1745 tonnes per year

4.6.2 Van Panchayat setup

Following is the text of agreement submitted to the DC/DM Governor's representative at the time of formation of Panchayat.

1. Names of the members of panchmandal.
2. The Governor, vide this *pratigya patra,* gave the land on the map and Khasra, to the above mentioned panchs on grant/assignment so that the panchs would protect the forest according to the following rules in addition to the panchayati rules:
   a) The produce from the forest would be given to the villagers and those rightholders whose rights have been sanctioned by the DC.
   b) Indiscriminate felling of the trees has to be stopped.
   c) Farming on this land would not be allowed and also this land would not be divided
   d) The boundary of the forests in the Forets Pancahayat would be demarcated by pillars.
   e) The trees from the forests would be sold only after considering the protection and development of the forest. All the orders for the development of forests would be passed by the DC and FPO.
   f) The panch would be responsible for the funds and other property of *Van Panchayat.*
   g) The records of income and expenditure would be maintained according to the DC's directive.
   h) If the norms/rules set up in this document are not followed the panchayat would be considered as invalid.

At the time of formation of the *Van Panchayat* the following scheme of management was decided by the villagers. The Panchs, in the first meeting, elected a Sarpanch among them and in the meeting, the following rules were laid down.

1. There would be 2 blocks in the *Van Panchayat.*

The forest area is flanked on the Eastern side by Malkhana Ki Dhar, on the West by Dharali Ma Ka Gazra, on the Northern side by the *Nap* land Gaudihat and the Southern side is marked by the road from Satpadi to Valtadi. Block No. 1.- Sela block, 48 hectares, would be divided into 3 compartments namely;

a) Dunakot compartment
b) Barsila compartment
c) Satpadi compartment

The management of the three compartments was decided upon as follows:

- In (a) grass would be preserved which would be distributed among all rightholders, while in compartments (b) & (c) the cutting of trees would be banned for 10 years. But from these two compartments, the rightholders would get *kukat*[3] wood for firewood purposes.
- Similarly the block No. 2, Salani Block with an area of 4.4 hactares will be demarcated by the following landmarks. On the East by the Tusnia Ki Rauli, on the West by the Naula Ki Rauli, on the North by the Zilla Parishad Marg from Pithoragarh to Jhulaghat, and the Southern side is flanked by Pithoragarh - Jhulaghat Motor Road.
- This compartment would be closed completely for a duration of 10 years for the purposes of lopping for fodder and firewood. The Panchayat would plant and grow Chir & Sal in this block of the forest.

2. The rightholders of the *Van Panchayat* would be all the villagers living inside the *Sal Assi* boundary of the village.
3. The common pathways through the *Van Panchayat* viz. to the temples, water bodies, cremation grounds etc. would not be closed and the panchayat would not hinder their usage.

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[1] Kukat is a local variety of shrub whose stems are widely used as firewood by the villagers

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- Similarly the block No. 2, Salani Block with an area of 4.4 hactares will be demarcated by the following landmarks. On the East by the Tusnia Ki Rauli, on the West by the Naula Ki Rauli, on the North by the Zilla Parishad Marg from Pithoragarh to Jhulaghat, and the Southern side is flanked by Pithoragarh - Jhulaghat Motor Road.
- This compartment would be closed completely for a duration of 10 years for the purposes of lopping for fodder and firewood. The Panchayat would plant and grow Chir & Sal in this block of the forest.

2. The rightholders of the *Van Panchayat* would be all the villagers living inside the *Sal Assi* boundary of the village.
3 The common pathways through the *Van Panchayat* viz. to the temples, water bodies, cremation grounds etc. would not be closed and the panchayat would not hinder their usage.

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[1] Kukat is a local variety of shrub whose stems are widely used as firewood by the villagers.

4. All the rights and the management rules laid down would not be subject to change by the future panchayats.
5. The panchayat would meet on the 1st of every month and all the members of the panchayat are required to be present in the meeting. On being absent without appropriate reason, the person can be fined upto Re.1/- only. If necessary, more than one meeting can be held in a month.
6. The rightholders are entitled to trees from the open block or compartment for household usage. The rightholders would have to pay some amount for these, which would be decided upon in meetings.

   Deodar, Tun, Surai, and Akhrot can't be given without obtaining prior permission of the DM.
7. The panchayat can't sell the trees without DMs permission and also can't give trees to non right holders without DM'S permission.
8. The monthly report of *Van Panchayat* would be sent in a specified format, provided by the Forest Department to the FPO.
9. All the right holders would have equal rights in the produce from *Van Panchayat.*
10. All the nearby villages not having forests of their own, would be given rights to grazing, grass, fuelwood after charging a fixed amount from them.
12. There would be no personal grass plots inside the *Van Panchayat.*
13. The panchayat forests' boundary would be at a distance of 9 m from all the adjacent *naap*[4] lands.

The right holders are entitled to only Chir trees from the forest on payment of a nominal fee fixed by the panchayat which is normally in the range of Rs.200/- to 300/- per tree. For fuelwood and timber only Chir trees are given to the rightholders.

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[4] The naap lands are those lands which are recorded in the Patwari's records as the personal lands of the residents of the village.

The villagers are allowed to remove from the forest only dried or fallen trees, on a waiting basis after obtaining a no objection certificate from a minimum of at least three panchs of the *Van Panchayat*.

The rules related to financial aspects were:

1. The panchayat would carry out all the paperwork on the specified stationery in a decided format. A printed cash memo would be given for salaries etc. On the basis of these, the expenses voucher is to be decided. An income-expenditure register would be maintained and all these papers & other assets of the *Van Panchayat* would be with the sarpanch.
2. Sarpanch would present the last month's income & expenditure details in the meeting.
3. The panchayat funds cannot be spent without the consent of the panchayat. The Sarpanch is empowered to spend a sum of Re.1/- only per month for stationery without the permission of panchayat.
4. The Sarpanch is not allowed to retain more than Rs.25/- as cash with himself and will deposit the excess amount in post office.
5. The panchayat funds would be spent on a priority basis on the protection and development of the forest. And if anything remains after that, the money would be spent in the village's community benefits after taking permission from the FPO.

The protection of *Van Panchayat* was sought through following rules:

1. In future the permission to harvest grass and fodder from the forests in *Van Panchayat* blocks and compartments would be at the discretion of Panchayat for the betterment and development of the forest.
2. The *Van Panchayat* would employ a watchman (at Rs. 20/- day) for the protection of the forests. Salary of the watchmen would be paid by the right holders equally, either in the form of cash or kind (foodgrains). The watchman would be accountable to the Sarpanch and the Panch of the *Van Panchayat*.

3. The panchayat will undertake the construction of pillars along the boundary of the *Van Panchayat* after receiving the map and the khasara
4. No habitation or encroachment would be allowed inside the boundary of the *Van Panchayat.*
5. Illegal cutting or felling of trees and plants would not be allowed.
6. The *Van Panchayat's* forests would be protected from fire.

The panch mandal can replace any of panch who has not attended two successive meetings. The Panchayat may also impose fines according to the nature of the offense i.e. if offenders from a neighboring villages are not able to deposit the fine, sarpanch can file a public suit. The Panchayat also have the powers to depute four or five panchs for guarding the forests if felt necessary.

In personal interviews, the villagers highlighted the rights to dry fuelwood, fodder grass, cattle grazing. If anyone does not follow the rules, the panchayat can take a disciplinary action against them.

If the animals are found grazing in the protected area, they are impounded and fines of upto Rs.50/- per cattle plus the feeding charges if the cattle is kept with the *Van Panchayat* and for illegal fodder cutting (lopping) fine is Rs.25/- per person.

4.6.3 Resource Attributes and collection patterns

The forests are relatively young, majority of trees being less than 40 years old. The forest consists of mainly Acania Catechu (*Khair*) and Shorea robusta (*Sal*), trees. The biomass estimation survey carried out showed that the average standing biomass in these forests is 11.4 m^3/ha One important feature of the Gaudihat *Van Panchayat* is that the forest land is rich in the shrubs of Woodferdia fruticose *(Dhola)*. These shrubs are present in about 60% of *Van Panchayat*. People of Gaudihat have planted Deploknema butyraces (*Chura*) trees, due to its economic importance. The plant provides them with fruit, fodder, and its seed is used for medicinal purposes. There are grass patches in the *Van Panchayat* land where the grass is being preserved during the monsoon and utilized as fodder for cattle. Of the total forest area about 40 percent

is estimated to have grass growing on it. While grass has always been of considerable importance to the villagers, the growth of cattle over the years has increased the demand for grass and leaf fodder The fodder leaves that can be harvested from these forests on a sustainable basis is estimated at 4 tonnes per year. Only about 17 percent of Gaudihat's total demand for fodder is currently being met from the panchayat forest The total grass production from the forest is of the order of 284 tonnes per year. The total demand for fodder for the animals of the village is estimated at 1745 tonnes per year The villagers depend mostly on the crop residue[5] and Reserved Forests to fulfill their requirement or fodder Presently cattle grazing is allowed in 2/3rd area of the *Van Panchayat*, and cutting of trees in the protected area (patches) is strictly prohibited

The sustainable production of fuelwood from these forests was estimated at 6.7 tonnes per year while that of timber at 18 tonnes per year. The fuelwood demand for cooking and space heating for the people of Gaudihat was estimated at 136 tonnes per year This huge gap in the fuelwood demand and supply from the panchayat forests is fulfilled from the Reserved Forests and to some extent by the crop residue (Table 4.6 2 and 4 6 3)

Table 4.6.2. Volume distribution of different species in the forests of Gaudihat *Van Panchayat*

Forest type (area, ha)	Growing stock of species (m^3)			
	Sal	Khair	Mahua	Saj
Sal (57 4)	1838.08 ± 857 5	4 592	-	18.4
Others (28 7)	23	448	23	-

Average growing stock in forest 11 4 m^3/ha

[5] The total agricultural area of Gaudihat village is 42 49 ha from which 127 47 tonnes of crop residue is obtained every year

Table 4.6.3. Total production of timber, fuelwood and fodder from the forests

Species	Total in each species	Sustainable proportion	Sustainable production	Timber (m^3)	Fuel wood (m^3)	Fodder (m^3)
Sal	742.13	0.02	14.84	11.87	2.97	-
Khair	136.24	0.01	1.36	-	1.36	2.72
Mahua	6.92	0.01	0.07	-	0.07	-
Saj	7.35	0.01	0.07	-	0.07	-
		Production (m^3)		11.87	4.47	2.72
		Production (tonnes)		17.81	6.71	4.09

Average production of grass in the forest	0.495 kg/m^2 4950 kg/ha
Total production of grass in the forest	284.328 tonnes

Assumptions

1. The fuelwood (sustainable) is 1% of the total woody biomass from the forests other than the Sal forest.
2. The woody biomass available (sustainable) from the Sal forests is 2% of the total biomass. Of this 4/5th is the available timber and 1/5th is the available fuelwood.
3. The leaf fodder (sustainable) availablity from the forest (Khair) is double that of the fuelwood production from the same. Of the total forest area. 20% is under grass in addition to the trees in that area

To understand the relative importance of forest species, women and panch of the *Van Panchayat* were asked to score them according to use. The result is shown in the Table 4.6.4 given below. Shrubs species were scored as the best source of fuelwood, *Khair* and *Sal* as the best source of timber for furniture and construction. While *Chura* scored highest as a fuel and fodder species and also for medicinal purposes.

Table 4.6.4. List of forest species ranked according to importance.

	Timber	Fuel wood	Grass	Medi cine	Fruit	Cash crop/oil
Acaia catechu	xxxxxxxx			xxx		xxxxx
Shorea robusta	xxxxxxx					
Saj	xxxxxx		xxx			
Adina cordifolia	xxxxx		xx			
Pinus roxburghii	xxx					
Emblica officinalis		xx				xxxx
Woodfordia fruticosa*		xxxx xx	x			
Rhus parviflora*		xxxx xxx				
Premna barbata*		xx	xx			
Pyrecantha crenulata*		xx				
Berberis asiatica*		xx				
Prinsepia utilis*		xx				
Murraya koenigii*		xx				
Quercus leucotricophora	xxxxx	xxxx xxx	xxxxx			
Toona ciliata	xxxxx	xxxx				

Continued...

Rubus ellipticcs*		xx				
Cinnamomum tamala		xx				
Rhododendron arboreum	xx	xx	xx			
Boehmeria rugulosa	xxx	xxx	xx			
Diploknema butyracea	xxxxx	xxx	xx		xxxx	xxxxxx
Bauhinia variegata		xx	xx			xxxx
Pyrus pashia		xxx				

The number of crosses (x) indicate the importance that the villagers attribute to a particular tree/shrub species.
* Shurb species

4.6.4 Issues and Discussions

Given the area of the *Van Panchayat* and its low growing stock, these forests are not able to fulfill the fuelwood and fodder needs of people dependent on it. Though the management plans of the panchayat are quite elaborate, they have been unable to provide necessary impetus to the development of the panchayat. On of the major reasons for this could be that the panchayats do not have sufficient decision making and judiciary powers vested in them.

The panchayat does not have any pine trees and hence does not gain any income from resin royalty. The guard of the panchayat has to be paid by the rightholders themselves. This acts as a certain deterrent in the financially poor region of the hills. The people percieve this as an additional burden on them in addition to being limited to use the resources from the forests which are their own.

Suggestions from villagers, panch, Sarpanch, and *Van Panchayat* Inspector

1. The most important factor in establishing and operating van panchayats as a social organization is that the community must be involved and trusted to manage its affairs.
2. *Van Panchayat* should function as semi autonomous units vested with sufficient authority to regenerate plants and protect forest and pasture lands. They should be empowered to take action against offenders, and this must efficiently be backed by the administrative authority. They should be authorized to hold their income in the local banks.
3. Women must be involved in the management of *Van Panchayat*. In suitable cases, fodder management could be put into the hands of women's committees.
4 Voluntary and other facilitating agencies should be given more specific task of disseminating the knowledge and knowhow about the conservation and energy saving techniques.
5. The Act may lay down that all villagers shall form *Van Panchayat*s, and that these shall manage all the plantations.
6. Provisions must be made in the Act for the training of the Sarpanch and the panchs.

4.7 *Van Panchayat* system: An analysis

The information from the six case studies, is collated and presented in this section. An attempt to compare the respective panchayat's functioning, management practices and peoples' perception about them has been tried.

4.7.1 Profile of case study areas

A profile of the six Van Panchayats that were studied has been presented in Table 4.7.1.

Table 4.7.1 Profile of *Van Panchayats* selected for case studies

	Jageshwar	Siruali	Malladesh	Dole	Vijepur	Gaudihat
Date of formation	1935	1949	1948	1956	1975	1967
Single/multivillage	Multi	Single	Single	Single	Multi	Multi
Area of panchayat (ha)	172.8	58.2	237	444	251	123
Altitude (m above msl)	2250	750	1500	1800	1200	1370
No of compartments	4	3	3	5	3	4
Forest condition	Fair	Fair	Poor	Fiarly good	Poor	Poor
Major species	Chir,Oak	Chir	Chir	Mixed	Oak, Chir	Sal, Saj, Khair
Nurseries	Yes	Yes	No	No	No	Yes

Table 4.7.2. Comparison of Van Panchayats on some parameters

	Jageshwar	Malladesh	Sirauli	Dole	Vijepur	Gaudihat
Parameters						
Area (ha)	172.8	237.0	58.2	444.0	251.0	123.0
Avg standing biomass (m^3/ha)	58.4	23.6	54.7	64.3	16.0	11.4
Population						
Human	795	748	284	1881	1210	1012
Livestock	1327	344	672	2161	1920	1154
Per capita standing biomass (cum/capita)	12.56	0.13	0.09	0.07	0.30	0.23
Percentage of demand met by sustainable harvest						
Fuelwood	16.0	0.04	0.05	60.0	0.05	0.05
Fodder	0.05	0.08	0.0	26.0	0.03	17.0
Consumption norms						
Fuelwood kg/capita-day	3.0 $\pm$1.5	2.8 $\pm$1.5	3.6 $\pm$1 1	3.0 $\pm$1.2	2.8 $\pm$1.3	1.1 $\pm$0.4
Fodder kg/head-day	5.5 $\pm$1.2	4.3 $\pm$2 0	4.5 $\pm$1.2	4.1 $\pm$0.8	4.3 $\pm$1.8	5.6 $\pm$1 6

From Table 4.7.1 and 4.7.2, it can be observed that the population dependent on the forest generally does not have a bearing on the condition of the *Van Panchayat*, depicted by per capita standing biomass availability as there was very less correlation between the two. There was no effect of a panchayat being formed out of a single village or multivillage. Similarly the cattle population also does not have any significant effect on the standing biomass in the forest.

The vicinity to the Reserved forests reduces the stress on the panchayat forests at least for the fuelwood and timber. Though cutting of

trees is banned from these forests also, the people nevertheless do so as these forests are inadequately guarded. The neighbouring villages not having panchayat forests of their own, also prefer to go to Reserved forests for fuelwood and fodder. As inferred from discussions with the people, if the Reserved Forests were in the vicinity, they preferred to go there rather than the panchayat forests due to a sense of propriety towards the panchayat forest.

4.7.2 Management of panchayats

Table 4.7.3. Management in selected *Van Panchayat*: Some parameters

	Jageshwar	Siruali	Malladesh	Dole	Vijepur	Gaudihat
1 Women member	None	One	None	None	None	None
2 Women's involvement	Nil	Nil	Nil	Nil	Nil	Nil
3 Panchayat meetings	Not regular	Not regular	Regular	Regular	Regular	Both kinds regular
4 Awareness among villagers regarding Panchayat rules	Fairly good	Very less	Less	Less	Good	Fair
5 Encroachements	Nil	Very less	Large scale	Large	Very less	Less
6 No of illegal incidents/month	5-10	5-10	10-15	20-25	20-25	15-20
7 No of guards	One	One	One+One	One+One	One	One+One
8 Wages (Rs per month)	400	600	450	600	750	500
9 Source of payment	Royalty	Royalty	Royalty to one and grass sale + contribution to other	Grass sale + contribution	Fines + member's contribution	Sale + members' contribution
10 Fine Recovery	Fairly good	Poor	Poor	Poor	Good	Fair, many cases pending in courts
11 Sarpanch ever dismissed	No	Yes	No	No	No	No

From the above table it can be seen that there is a total absence of women's participation in the panchayat's management. Though one panchayat had one woman as Panch, she did not take part in decision making processes of the panchayat. Panchayat meetings, which are of two kinds, executive body and general meeting in which all the villagers take part, could be said to have a direct bearing over awareness among the villagers regarding the Panchayat rules and regulations. The number of illegal incidents like unauthorised lopping etc do not show any correlation with the villagers being aware of the rules of the panchayat. This can be attributed to the fact that the villagers cannot fulfill their denmand of fuelwood and fodder by legal means and they have to resort to illicit lopping etc. Though all the panchayats employ guards, their salaries vary across the panchayats and the source from which it is paid also differs.

4.7.3 Benefits accrued to the right holders

The rightholders dependent on these forests get many benefits out of these forests, though not in the quantity that they need. The rightholders enjoy the rights of fuelwood, fodder, grass and timber from the forests in addition to other minor forest produce like fruits, medicinal herbs etc. They also take *pirul*, dry and fallen leaves, twigs etc from the forests. All the forests having grasses and leaf fodder are lopping these from the forests, but the fee charged from the rightholders differs in each panchayat. The price charged for trees for timber and/or fuelwood is also different in all panchayats.

Table 4.7.4. Benefits to rightholders from the *Van Panchayats*

	Jageshwar	Siruali	Malladesh	Dole	Vijepur	Gaudihat
1 Benefits to community	T, FW,FD, L & G	T, FW	T,FW G+ softstone	T,FD,FW G&L	T,FW G&L	T,FD,FW (shrubs)
2. Sources of revenue	VP sale + fines	VP sale + fines	VP sales + fines	VP sale + fines	VP sale + fines	VP sale + fines
3 Grazing	Allowed only in some parts	Free	Restricted in areas with grass	Restricted in some parts	Restricted totally	Restricted in some parts
4 Grass from Panchayat forest (fees/rightholder)	Restricted for two seasons (Rs.35/-)	Only to some	One till grass lasts (Rs 20/-)	One season (Rs.30/-)	One season (Rs 10/-)	Yes, two seasons
5 Lopping for fodder (fees/rightholder)	Open for two months (Rs.35/-)	NA	NA	Some time in one season (Rs.30/-)	Open in two season (Rs 25/-)	Open in one seasons (Rs.50/-)
6 Fuelwood	Dry&fallen free	Dry&fallen free	Dry&fallen free	Dry&fallen free	Dry&fallen free	Dry&fallen free
7 Timber (price)	One Chir tree/year on demand (Rs 100/-)	One Chir tree/year (Rs.30-50/-)	One Chir tree/year on demand (Rs.15/ft.)	One Chir tree/year on demand (Rs 50/-)	One Chir tree/year on demand (Rs 50/-)	One Chir tree/year on demand (Rs.200-300)
8 Other benefits Stones	Resin + Soft stone herbs	Resin +	Resin +	Nil herbs+	Resin	Medicinal *Katha*
9 Most beneficial species in forest	Oak	None	None	Oak	Oak	Khair& Sal
10 Others	Unrestri-cted	Unrestri cted	Unrestri cted	Unrestri-cted	Unrestri-cted	Unrestri-cted

T = Timber, FW = Fire/fuel wood, FD = Fodder, L = Leaves, G = Grass

4.7.4 People's Perception

Table 4.7.5. People's perceptions regarding *Van Panchayats*

	Jageshwar	Siruali	Malladesh	Dole	Vijepur	Gaudihat
1 Forest Area Sufficient	No	Yes	Yes	Yes	Yes	No
2 Forest resources fulfill their reqquirment						
a. fuelwood	No	Yes	Yes	No	No	Partly
b. fodder (tree)	No	No	No	No	No	No
c. fodder (grass)	No	No	Yes	No		
d. timber	Yes	Yes	Yes	Yes	Partly	Partly
3 How fulfill their requirement						
a. Lop illegaly own FP	Yes	Yes	Yes	Yes	Yes	Yes
b. Lop illegaly nearby FP	Yes	No	No	Yes	No	Yes
c Lop illegally in reserved forests	Yes	Yes	Yes	Yes	Yes	No
4. About management of forest panchayat	Fair	Poor	Poor	Poor	Fair	Fair
5 Do they want FP ?	Yes	Yes	Yes	Yes	Yes	Yes

In Table 4.7.5, perceptions of the local people regarding the panchayats and their resources are shown. In most of the panchayats, the forests were regarded sufficient for the fulfillment of their needs of timber. On the other hand, in most of the panchayats, though the forests could not meet the needs of grass and fodder, the people were not much concerned. This could be attributed to the fact that these panchayats had either Reserved or Civil forests in the vicinity. Also a part of demand for fodder is being met by the agriculture crop residue. Also the locals in all the panchayats illegally lop and cut in the forests irrespective of the kind of forests, as asserted by them. Oak was considered as the most beneficial species in the forests as these species are a good source of fodder and fuelwood. The panchayats not having Oak in their forests, wanted the Oak species to be planted there.

Though the management of forests by the panchayat committees was considered as poor by the villagers, all of them asserted the need of having a local body (*Van Panchayat*) to manage the forests. This shows that the people want to have the rights to the produce from these forests in their control, instead of either Forest or Revenue Departments.

The livestock in the hills are not very productive. As a result of which, each household has to raise cattle for their requirement of milk etc. The main use of cattle in the hills is for manure (in the form of dung) and drought power. The goats are generally free grazed and this harms the regenerating fodder species in the forest.

One fact that can be inferred from the six case studies is that the carrying capacity of the panchayat forests (or for that matter, total forests) is far less than the total requirement of fuelwood and/or fodder of the villlagers dependent on these forests. Even if these panchayats are given greater autonomy and they are able to manage the forests more efficiently, still the sustainable production from these forests would be far less than the consumption requirement. Though the demand of fodder is partly taken care of by the agricultural system, for fuelwood some alternate and cheap source of energy would have to be provided for the people if the forest are to be conserved.

CHAPTER 5

Conclusions and recommendations

From the analysis of secondary data and the case study method employed to study the management of forests on common lands by the local community following conclusions have been arrived at. We have also made a few recommendations based on our observations.

5.1 Resource situation

The case studies indicate that the biomass resources within the *Van Panchayat* can not meet the local demand of fuelwood, fodder and timber in a sustainable manner. The current requirements are met by one or more of the following strategies.

- Reduce consumption
- Shift to other resources
- Extract unsustainably from *Van Panchayat* resources
- Extract from nearby forests under the control of forest department or other *Van Panchayats*

In many cases, extraction from nearby forests was widely prevalent.

1. There have been no significant efforts in improving the resource situation by establishing nurseries or plantations.
2. Most efforts have resulted in more regulatory controls of resource degradation.

The people are also aware of the problem, but do not seem to have specific ideas on how it could be solved.

5.2. Institutional arrangements for the functioning of *Van Panchayats*

A *Van Panchayat* is an elected body from amongst the rightholders which manages the forests in the common lands of the village and is designated as panchayat forests. This body functions under the District Magistrate, DM (who is in the Revenue Department), who is the representative of the Revenue Department. The Forest Department provides technical support in marking and auctioning trees and also helping in preparation of developmental plans for the forests under these panchayats. More often than not the institutional arrangements fail to have an impact due to

- The FPOs are the representatives of DM at the sub-division level. They are in charge of the developmental work to be carried out in the *Van Panchayats*. The FPOs are primarily revenue officers (SDMs) and the matters regarding the *Van Panchayats* are generally relegated to secondary status. Moreover they lack adequate technical training in forestry and are dependent on Forest Department.
- The FPIs who are the field personnel for supervision of *Van Panchayats*, have under their jurisdiction, a large number of *Van Panchayats*, which dilutes their efforts. In district Almora alone, there are more than 1700 *Van Panchayats* for which there are only 4-5 FPIs, which is grossly inadequate. The technical inputs from Forest Department are dismal, as is evident from absence of working plans.

5.2.1. Powers with the Van Panchayat

Though the *Van Panchayat* is managed by a body of elected rightholders, most powers are presently with the DM. Even the decisions like employment of watchmen for the Panchayat forests have to be approved by the DM. For most of the decisions, the panchayat or the Sarpanch has to depend on the DM. If a rightholder requires wood for any ceremony or for cremation, the Sarpanch has to send a requisition for the same to the DM through the FPI and on his request the DFO marks the trees to be

cut. This information is again communicated back by the same process. Since this process is very long and takes a lot of time to be brought into effect, trees are usually cut much before the information from DFO can reach Sarpanch.

In case of illegal lopping or encroachments, the Sarpanch has powers to impose fines on the offenders, upto a maximum limit of Rs. 50/- without DM's prior approval. He however, has no powers to enforce this imposition. In the case of defaulters, the Sarpanch notifies the FPO via FPI, who in turn instructs the Patwari to carry out suitable action. Very often this process takes too much time and therefore is not very effective. Besides this the panchayat can also file a court case against the offender but due to lengthy legal proceedings, a lot of time is wasted and these decisions fail to prove effective.

Yet another problem is that of selling the trees that fall due to natural causes in the forests. These cannot be sold/auctioned by the panchayat without the prior permission of the DM. The requisition to auction the tree goes to the DM through the FPI and FPO. The DM, in turn asks the Forest Department to value the tree that has fallen, at the site. The Forest Department inspects the tree and assigns a price value to the tree and communicates the same to the DM. This information goes back to the Sarpanch through the same channel. By the time this information reaches the Sarpanch, the economic value of the tree gets affected considerably due to the deterioration of the tree.

5.3. Legal aspects

The *Van Panchayats* are managed by local bodies elected from amongst the rightholders with governing powers being vested with the District Magistrate. The legal backup not only makes the *Van Panchayats* unique but also lends legitimacy to them in the eyes of the rural people. An examination of the legal aspects of the *Van Panchayats* has relevance for the joint forest management initiatives taken in India, and can possibly be a starting point in the design of the institutional framework in which they can operate in future.

In 1931 the legislation on *Van Panchayats* was introduced and in, 1972 this was amended. The number of clauses increased from 22 in 1931 to 49 in 1972. Several aspects such as the role of the Deputy Commissioner in different situations was outlined, and the rules of 1972 could possibly be described as a legal response to the variety that one would find in the functioning of *Van Panchayats*.

From our observations of *Van Panchayats* that were studied and the ones we visited, it was clear that the actual conditions differ greatly from the rules on paper. While the 1931 rules are silent on the area of land to be closed to grazing, the 1972 rules specifically mention that at least 20 percent of the area should be closed for grazing. In some *Van Panchayats* the land available was limited, but the ones like Sirauli the practice of open grazing did not exist because of the steep gradient of the forest land. The percentage of the area to be closed for grazing could be left to the *Van Panchayat*.

As per the 1931 rules, the bye-laws can be decided by the *Van Panchayat*. However, from 1972 onwards they have to get approval of the Deputy Commissioner. This, in fact limits the autonomy of the *Van Panchayat* and encourages a propensity to standardize without taking into consideration the local variations. From the records of formation of several *Van Panchayats* one could perceive this trend in *Van Panchayats* that were formed in recent years[1]. Even in the case of *Van Panchayats* that were formed several years back, the earlier bylaws have continued even though the local conditions have changed over the years. For instance, in the case of Phulai Jageshwar, there have been changes in resource conditions and it has been divided to form two more *Van Panchayats*. In our opinion the bylaws can be reviewed every ten years. But such a step will be feasible and effective only if an apex agency is formed.

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1 This trend was visible even before the 1972 rules, but the rule reinforces it. The tendency to bring uniformity in bylaws of the forest panchayats, possibly stems from the inherent feature of the bureaucracy to standardize.

According to the 1931 laws, profits were to be shared between the *Van Panchayat* and the forest department, in a proportion decided by the Conservator of forests. But by the 1972 rules the profits are to be credited in different fund categories, some of which have no direct links with the *Van Panchayat*. This provision centralizes the funds of individual *Van Panchayat* at the district level, resulting in two major constraints (i) the autonomy of the *Van Panchayat* gets limited, and (ii) this also builds into the system, delays in the flow of funds to the *Van Panchayats*.

With regard to utilization of funds, the 1931 rules give higher priority to development of the panchayati forest than to utilization for general development of the village. But in the 1972 rules, utilization of *Van Panchayat* funds for projects of general utility was given higher priority.

In comparison to the 1931 rules, the 1972 rules explicitly recognize the technical role of the forest department and the role of the Divisional Forest Officer, in particular. For instance, clause 21 makes it obligatory for the forest department to prepare working plans for the panchayat forest. Clause 18(d) emphasizes that the Deputy Commissioner has to seek the advice of the Divisional Forest Officer in matters pertaining to the improvement, maintenance and exploitation of the forest. Clauses 22 and 19 also identify a commercial role for the Divisional Forest Officer. Even though the 1972 rules emphasize the coordination between the revenue department and the forest department, in practice, they operate almost independently. Possibly, the above clauses were a legal response to improving co-ordination between these departments.

Much has been written about the powers of *Van Panchayats* in dealing with forest offenses. It has been pointed out that the rules after 1931 curtail the powers of *Van Panchayat* (Singh and Ballabh, 1988, Saxena, 1987). In the case of Sirauli *Van Panchayat*, for instance, cases of illicit cutting of grass, has taken more than four years for a settlement and the dues are yet to be recovered. We opine that in addition to having

a suitable rule, a suitable agency to implement it has to be identified, given the responsibilities the revenue department already has.

The 1972 rules outline the responsibilities of the Sarpanch of the *Van Panchayat,* which is a marked improvement in this regard over the 1931 rules. However, the 1972 rules have attempted to define the role of the Deputy Commissioner in relation to audit, and his role in the event of the removal of the Sarpanch. In our opinion, the 1972 rules restrict the operational freedom of the Deputy Commissioner by defining legally his responses (even outlining the procedures) to different situations relating to the *Van Panchayats.* The 1931 rules, on the other hand provide more scope for interpretation of the rules by the Deputy Commissioner and come up with original solutions. This is clear from the case of Phulai Jageshwar *Van Panchayat.* For the first time a *Van Panchayat* was dissolved. Instead of going through the entire procedure of forming the *Van Panchayat,* fresh elections were held on the grounds that the ownership of the panchayat forest vested with the people, and that the rightholders were interested in having a *Van Panchayat.*

While the *Van Panchayat* were viewed as a local body with a certain degree of autonomy under the 1931 legislations, the 1972 rules view the *Van Panchayat* as a local body that functions under the control of the Deputy Commissioner's office, despite its positive features.

5.4. Information systems

The manner in which the information regarding the *Van Panchayats* is maintained, leaves very little scope for joint decision making by the Forest and Revenue Departments. While the Revenue Department has organized *Van Panchayats tehsilwise,* the Forest Department follows a divisional system. The problem stems from the fact that the *tehsils'* and divisions' boundaries do not match and often the divisions include areas from other districts. The result being that the decision making and coordination are affected. Moreover, the Forest Department keeps the records of only the panchayats which yield resin, while the Revenue Department does not. The Revenue Department has records of all the panchayats in the district, *tehsilwise* with their respective areas, with no

mention of the resources or their yields. Even across departments and sub-divisions, the information is scattered, and it is a long process to assimilate it.

5.5. Proportion of resin royalty to *Van Panchayats*

According to the rules laid down in the Indian Forest Act 1972, forests of *Van Panchayat*, only 40% of the total royalty received from the sale of resin tapped is share of the *Van Panchayat*. Rest 40% is taken by the Forest Department and the remaining 20% is put into the funds of Zilla Parishad by the District Magistrate for undertaking developmental activities in the district. The *Van Panchayat*'s share also is deposited with the DM and to withdraw any money from this account, the panchayat has to get the approval of the DM. The process of getting approval for any expenditure also takes the same lengthy route of FPI and FPO. Only if these two approve the expenditure, the DM sanctions the requisite amount. The whole procedure takes very long time, and sometimes as long as an year before the amount gets sanctioned. Presently, the DM approves only those requests that pertain to afforestation and no money is sanctioned for general developmental work in the village. It has been felt and was voiced by the Sarpanchs and other members of *Van Panchayats* that were surveyed, that the distribution of resin royalty was unfavourable to proper development of the panchayats. It was suggested that a major portion of royalty from sale of resin should accrue to the concerning *Van Panchayat* and the funds should be under the control of the panchayat.

5.6. Peoples' participation

For the successful management of any common property resource, the involvement of people is imperative. It was observed during the course of the study that the people in general were apathetic to the management of panchayats. This could be explained by the fact that the benefits flowing to the individual from the forests are on a constant decline. Few panchayats that are doing well are the ones that entail some people's participation in the form of conceding to the bylaws and norms of the

panchayat. The factor that matters most in order to ensure people's participation in community resources, is a strong leadership. However, a strong leadership alone cannot ensure people's participation for the management of a common property. Also equally essential is that the people should realize, that a common property resource would be beneficial to the community and hence to the individual, only by exercising some limiting conditions to the resource utilisation and these limiting conditions should be set and adhered to, by the community.

Women's role in *Van Panchayat*. It is essential to have women members in the management of forest resources, as they are the ones who are the actual users of the forests. But the women in the hills do not play any significant role in the management mainly because of the social conditions prevalent in these parts of the country. Even in the areas where the women are members of the panchayat, their role in decision making has been observed to be negligible (refer Sirauli *Van Panchayat*: a case study). Very often they are even ignorant of the total area and bylaws of the *Van Panchayat*. They rarely attend the meetings as it is against the tradition of the society for a woman to mix with men who are not from the family. Moreover the lifestyle in the hills is such that the women are left with very little time to participate in activities other than household chores and agricultural related activities. This combined with the lack of education among them proves to be a major handicap in involving them with the *Van Panchayat* management.The *Van Panchayat* system of managing forests on the common lands by the village community is a unique form of common property resource management. It was born out of conflicts that followed the land settlement and forest reservation policy of the Government during the beginning of the century. This system has been prevalent since the last 60 years, though not very successfully in many instances. The participation of people in the upkeep of forests of *Van Panchayats* had been very good till recently. The issue of people's participation in managing these resources gained importance in recent years due to indiscriminate felling of trees and resultant pressure on natural

resource. An overview of the genesis and functioning of *Van Panchayats* gives an idea of the peoples' interest and stake in the forest resources. The vegetative cover of these forests are at least as good as the Reserved Forests, better in many instances and the distribution of forest produce from these resources is reasonably equitable.

5.7. Conclusions

The conclusions from the study of management of forests in common lands by the local community are listed below:

1. Forests are central to the lives of people in the hill districts, the *Van Panchayat* being considered more important than *Gram Sabha*. The communities living in the vicinity of the forests managed by the local community are being benefitted to some extent. They enjoy exclusive rights to use the products from these forests whereas the communities not having any forests of their own have to be dependent on Reserved forests for these resources. The rightholders get timber, fuelwood, fodder, leaf mulch etc. at a minimal cost from these forests. Even in cases where the forests have only pine tree species like *Chir,* the community is benefitted by the royalty received from the sale of resin, which they use for developmental activities other than those pertaining to forestry, in addition to timber and fuelwood.
2. The communities having good forests, mainly *Oak,* have a good supply of underground water in the vicinity, eg., Phulai Jageshwar and Dole *Van Panchayats*. On the other hand, the communities with forests consisting mainly *Chir* face a shortage of water sources nearby eg., Sirauli and Malladesh and to some extent Vijepur.

3. The major factors that can be attributed to the successful existence of these institutions could be (a) these institutions assured a fair and equitable distribution of forest produce to all rightholders (b) the *Van Panchayats* satisfied the peoples' basic needs to some extent (c) the egalitarian distribution of land holding and homogeneity of caste in these areas. These all factors coupled with what has been already stated regarding the high stake of people in the forests provided a conducive environment for peoples' participation in managing these institutions.
4. The factor that emerged very strongly as the reason for better functioning of some *Van Panchayats* than others was strong and dedicated leadership aspect of the Sarpanch. A dedicated Sarpanch could more easily motivate the villagers to abide by the bylaws and norms of the panchayat.
5. The management of *Van Panchayats* being handled by two departments poses many hindrances and delays in the information flow. The FPO has to take decisions regarding the sale of trees from the *Van Panchayats*. The Forest Department values the trees, on FPO's request, and then only the FPO gives a decision. Similarly, to sanction money for afforestation from the panchayat's funds, the DM requests the Forest Department to give an estimate of the total cost of afforestation and boundary construction and then only sanctions the money.
6. The nature of organization of information regarding *Van Panchayats* by the Forest and Revenue Departments makes it very difficult to study all aspects of *Van Panchayats* to a greater detail. The Forest Department organizes information on the basis of their divisions and on a historical basis while the Revenue Department provides the information blockwise on a consolidated basis

7. The infrastructural support from the Government for the management of these institutions is quite inadequate. The FPO's and FPI's are not technically qualified in forestry. The FPO has primary responsibility as the Sub-Divisional Magistrate which takes precedence over other matters including forestry. The FPIs are overburdened with having to supervise more forests panchayats than is possible mainly because of the difficult terrain of the region. The incentive being paid to the FPIs is grossly inadequate (only Rs.80/- per month as travel allowance) in the present situation.
8. The major cause that could be attributed to the failure of these panchayats in conserving and maintain in a sustainably the forests in the recent times is the increase in demand due to increase in population over the last two decades whereas the land resource has remained same. The locals have been harvesting these and adjoining resources since time immemorial and they tend to perceive these as inexhaustible (under Forest Department). Any attempt at restricting the use of these resources is still regarded as violation of their rights.
9. The locals are totally dependent on the forests for their fuelwood demand for cooking and space heating. Unlike in the other parts of country, where most of the cattle dung is used as fuel, here it is solely used as farm yard manure. The leaf fodder is also mixed with cattle dung and makes an excellent farm yard manure. This practice augments the stress on the forests.
10. The participation of women in the management of *Van Panchayats* is negligible. Even in the case of a woman being included in the panchayat, her participation in the management affairs is nil (refer Sirauli *Van Panchayat*), mainly because of lack of education and social conditions. The situation would improve only by increasing the awareness of the people through education.

5.8. Recommendations

The recommendations from the study are as follows:

1. The panchayat forests alone are inadequate to meet the demand for fuelwood and fodder of the people dependent on them. Alternate options such as different pattern of management of *Van Panchayat* and adjoining forest land, other employment options, alternative cooking fuels need to be considered in an integrated manner.
2. Very few people in the village, with the exception of Sarpanch and other educated persons, know about the rules and regulations of the panchayat. They should be trained and made aware of the need for conservation and ills of deforestation. Women's involvement in the forest management is virtually absent. They have to be educated and trained to play an active role in the management of panchayat forests.
3. The information regarding *Van Panchayats* is scattered and an effort for consolidation and updation for the same is imperative so that the decision making becomes easier, faster, and effective. A possible solution to this would be to either let all the affairs of *Van Panchayats* be handled by one department or constitute a separate state machinery to look after the management of *Van Panchayats* on a macro basis, viz., a federation of panchayats at the district level.
4. Efforts should be made to educate and organize the Sarpanchs and other members of panchayats so that they understand the criticality of the situation and become dedicated to the job of properly managing forests. They should be offered some incentives like awards etc. for them to take interest in giving the panchayats their best.

5. The Panchayats should be made more autonomous with regards to decision making They should have quasi-judicial authority to enforce the rules and regulations of the Panchayat. A suggestion was to constitute a body, with a membership of all the Sarpanchs in an area, having judicial powers so as to eliminate the delays in the decision making system.
6. The panchayats should be provided with the autonomy to use their surplus income in a manner they decide to be the best. A suggestion put forth to the study team was that the resin royalty amount should be with the panchayats and not with the DM, out of which a proportion should allocated for other developmental works like school building, water storage and distribution mechanisms etc. This would be perceived as a benefit from the panchayat forests and villagers would take more interest in managing these forests in a better way.
7. In many of the *Van Panchayats*, the forest guard is being paid out of the villagers' contribution, as they do not have sufficient income of their own. This acts as a disincentive to the villagers who perceive the guard as a burden in addition to a deterrent to their forest resource use. The Government should mandatorily provide the salary of the forest guard for all *Van Panchayats*.
8. The institutional backup mechanisms such as Revenue and Forest Departments should have more predilection towards *Van Panchayats*. Presently both the departments have their own priorities and matters regarding *Van Panchayats* are being accorded a peripheral interest. Again, the possible remedy would be to form a separate body to supervise the management of *Van Panchayats* at the district level.
9. The FPO's should be trained specifically to deal with the matters regarding *Van Panchayat*. Moreover, the number of FPIs should be increased per tehsil with an increase in their conveyance allowance. They should be provided with actuals as conveyance allowance.

10. The afforestation efforts presently being done in the panchayat and other forests are carried out by different departments which are disconnected, though working with parallel programs with similar objectives. A concerted effort specifically aimed at panchayat forests would be more effective.

There is a great need to improve the economy of the region. As long as the people are poor, they tend to depend more on the natural resources, which they get at zero private cost, for their day to day life. A provision of an alternative, low cost fuel could go a long way in conserving the forests. For developing the region's economy, the following measures could be adopted:

Horticulture. More emphasis on horticulture would bring more revenue to the locals with almost the same effort. Mehul is a local tree which grows in abundance in the region. With budding, the tree produces good fruits. Already some farms are producing them and this technology needs to be spread.

Animal husbandry. A scientifically managed animal husbandry should be encouraged which would augment the income from agriculture and horticulture.

Tourism. This area being rich in natural beauty, tourism industry could flourish here, which would give a boost to the local economy in addition to employment to locals who migrate to other regions for the same.

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Glossary

Banj - Indian oak. Quercus spp.

Chir - Pinus Roxburghii

Chowkidar - Watchman/Guard. In this case, of the Van Panchayat forest.

Deodar - Himalayan cedar. Cedrus deodara.

Deputy Commissioner - Civil servant who is in charge of revenue, law and order in a district. By virtue of magisterial powers vested in him under several acts he is the most powerful government official in a district. Also referred to as District Magistrate, District Collector.

Gaon Sabha - Village body. This body receives financial support from the rural development department. Has an elected council called Panchayat.

Lakh - One lakh is 100,000.

Madua - Local millet in Kumaon hills.

Malguzar - Person authorized by the forest department to collect fees from users of the forest.

Nala/Nullah - A small rivulet flowing through the valley.

Nali - A revenue unit for land measurement. 20 nali equals an acre.

Patti - A revenue unit, mostly a group of five to six villages, for purposes of revenue collection

Patwari - A revenue official in charge of a group of few villages (Patti) for purpose of land revenue collection and land record maintenance. Also assists the Tehsildar in investigating civil disputes.

Pradhan - Elected chief of the Panchayat/Gaon Sabha.

Quintal - One quintal is 100 kilograms.

Rightholders - Villages in the vicinity of a given forest whose rights for the forest produce are recognized.

Sal Assi - Year 1880 of the *Vikram Samvat* (the traditional Indian era still in use in rural areas), corresponds to 1823 A.D. This year denotes the first land settlement carried out by Mr. Traill in the Kumaon hills and the boundaries of the villages were demarcated. Free grazing, timber and fuelwood collection from forests were allowed under this settlement.

Sarpanch - Elected chief of the *Van Panchayat.*
Sub-divisional Officer - Same as Sub-divisional manager, Assistant Collector, Assistant Commissioner. In charge of a sub- division, he reports to the District Magistrate.

Tehsil - A revenue management unit. Normally a district consists of three to four tehsils. Headed by a revenue official called Tehsildar.

Tonne - One tonne refers to 1,000 kilograms.

Van Panchayat - Van means forest in Sanskrit. Panchayat means council of five. Implies forest council. In this case a local forest management council formed in 1931.

Zilla Parishad - District development body. Mainly consists of elected representatives (Pradhans) and civil servants. Responsible for development planning in a district.

APPENDIX 1

Questionnaire for the consumption/demand estimation

Household details:

1. Name of the village/Van Panchayat:
2 Name of the person interviewed:
3. Total Members in the household:
4. Adults (>15): 5. Children (<15).
6. Dominant caste in the village:
7 Dominant occupational group(s):
8 Land ownership:
   a Total agricultural land:
   b Irrigated land:
   c Crops grown (with area): summer winter monsoon
      i.
      ii.
      iii.
      iv.
      v.

9 Livestock statistics

Type of animals	Total No	Stallfed	Grazing
Cows			
Calves			
Bullocks			
Buffaloes			
Goats			
Others			

10 Collection of grass/leaves for cattle

Particulars	Summer	Monsoon	Winter
No of persons collecting			
Who collects (mostly)			
No of collection days/week			
No of trips /person/day			
Total quantity/person/trip			
Distance travelled/trip			
Collection source			

TIME LINE OF THE VAN PANCHAYAT

Year	General	Forest Rights	Forest Produce

Daily activity schedule of women in the village

Scoring of forest species by use:

Enduses	Species Oak	Chir	Burans	Others
Timber				
Fodder				
Fuelwood				
Agricultural implements				
Medicine				
Others				

Changes over time

Enduses	Species Old	New
Timber		
Fodder		
Fuelwood		
Agricultural implements		
Medicine		
Others		

APPENDIX 2

Questionnaire for the sarpanch/panchs'

1. The nominations to the VP by the D.C. are SC/ST. Is this practice correct? If not, why?

2. How many women members are there in this VP? If none, why? and what are the difficulties faced in this regard?

3. What could be the ways to enhance womens' participation?

4. The removal of any member of the VP is by the approval of the D.C. What is the exact mechanism followed?

4a. Could there be other mechanisms for the above (viz. a council of village elders etc.)?

5. How are the disputes regarding illicit lopping, encroachment, etc. resolved? What are the exact mechanisms?

6. The Panchayat is empowered to levy a fine of only upto Rs.50 without the prior permission of the D.C. Is the limit adequate? If not, why and what should be the ideal limit?

6a. Can you suggest an optimum time after which the fine amount should be revised?

6b. What are the mechanisms for collecting the fines? What in case of defaulters?

7. The working plan of the VP is supposed to be prepared by the FD with the VP's agreement and the villagers' expectation. Has this been the practice in this VP?

8. The sale of forest produce (value <5000) can be done by the sarpanch. Is the limit adequate? If not, why and what should be the limit?

9. What other institutional arrangements can be provided for the sale of the forest produce, other than the FD?

10. Resin extraction is carried out by the FD. Is this the best arrangement for the same?

11. What should be the ideal method for resin extraction and the sale of it?

12. The disbursement of the money from the sale of resin is distributed in a particular fashion (20% to ZP, 40% to FD & 40% to VP). Is this the correct arrangement? If no, why?

12a. What is the general delay in the availability of the funds from the resin sale to the VP?

13. What should be the proper distribution of the funds from the resin sale?

14. The administration of the VP funds (deposited at the DM's office), is under the D.M. Is the arrangement satisfactory?

14a. If the funds of the VP are used for general development purposes, who decides on what and how the funds are to be disbursed?

14b. Are the villagers or the VP members consulted in the above regard?

15. What other mechanism(s) can be employed for the same.

16. Are the outsiders allowed to use the resources of the VP? If yes, under what circumstances this could happen?

17. How are the decisions regarding the grazing, lopping for fodder and the years of rotation for lopping taken?

18. Is there any nursery in this VP? Who runs it? Who decides what tree species to be grown?

19. Does the FD provide any input - technical or financial or in any other form - for this nursery?

20. Is there a need for training different groups of villagers on various aspects of VP management?
    Sarpanch/Panchs
    Women
    Other VP members

21. Can you give some specific suggestions for the improvement of the VP.

Local Management

Objectives

1. To find out the current practices and rules adopted for managing the forest
2 To find out the key episodes in the history of Van Panchayat
3 To find out about changes in the current practices and rules over time
4. To find about the rightholders' perception about Van Panchayat management.

Production

1. What are the products that are exploited from P.F ?

 __________ Trees (Green/Dry) Grass ________ , Fruits _____, minerals (Slate etc) ______ water _____ flowers _____ Honey ________ fodder leaves

2. Area of the P.F. _______
3. No. of compartments _____ (PRA map)
4. Special zones ____________
5 Product flows:

Product	Names of species used	Type (Branch, pole etc)	Perceived reduction
Fuelwood			
Fodder			
Fruits			
Flowers			
Construction timber			
Minerals			

6. From which sides the PF is prone to entry ? Identify in the map natural boundaries which prevent entry.
7. Do neighboruing villagers intrude to exploit resources of your P.F.
8. Has the P.F. been divided/partitioned earlier. If yes, reasons.
   Formation of a new V.P
   Sale of P.F. to private party
   Development project (schooles, others)
   Any other __________
9. Are there natural boundaries to P.F. (like different soil types, other natural variations) - PRA map.

Decision making arrangements

10. What is the relationship between V.P. and Gram Panchayat ? Howmany Gram Panchayats are there in this V.P. ?
11. Are there common members?
12. How many times has the VP met in the last year?
13. Have all the villagers in a VP met anytime to take decisions on the PF? If yes, the issue.
14. Are there other "Cooperative"/ "Collective" activities in the villages in VP?

    Informal village funds ___________

    Joint construction of
    village roads/buildings etc. __________

    Any other _________

15. When the watchman is not present, if a villager violates a rule w.r.t panchayat forest, what will be the reaction of people "non-watchers"
16. Are there social sanctions imposed on violators?
17. What does the watcher do, if he see some villager violating rules?

    Seizes tools _______
    Imposes fines ________
    Reports to VP. ________
    Keeps quiet mostly _______
18. Do villagers bribe the PF watchman ?
19. How many times the FPI visited your VP last year?
20. If there is any problem regarding PF do you correspond with the FPI? If yes,

    By petitous _______
    Copy of minutes ________
    of VP meeting ________
21. What are the major disputes between the VP

    a) And the villagers
    b) And the nearby VP
    c) And the forest department
    d) And the revenue department
    e) Any other department

22. Has the PF been divided any time ? If yes, the reason.

    To farm a new VP ________
    To solve boundary disputes __________ (If so, between when)
    For development project _________
    (Schools etc)
    Any other __________

23. Decisonmaking w.r.t. products

Items	Choice of species	Plantation operations site selection operation (where) (who)	Protection (who)	Lopping decision where when	Distribution beneficiaries	Pricing
Seedlings Leaves (fodder) Grass timber (construction) Timber (sale) others						

1. VP 2. FP 3. RD 4. VP + FD 5. VP + RD 6. GS 7. RD + FD 8. GS 9. GS + VP

24. Who are the users of this panchayat forest?
25. What is the criteria of memmbership for use?

All residents in the villge ___________
Only residents who are natives of this village ________

26. If a new person, settles in a village can he use the panchayat forest ? If yes,what is the mechanism? If no, how will his needs be met.
27. Has any person withdrawn/forfiet the right to use? If yes, explain.
28. Do all users have access to all parts of the PF?
29. To improve forest condition has the VP taken steps

Walls for protection
New plantation
Soil conservation
Nursery development
Any other

30. What methods of protection are followed to protect PF?

- By watchmen
- By rotational guard duty by all families
- By stall feeding cattle

31. Is the watcher paid: If yes, sources of funds
32. No.of watchmen in different seasons.
33. Control systems used in VP forest management.

A. Harvesting of selected produts and species:

Product

Trees	Species	Season	Change over time
Fuelwood			
Timber			
Fruits			
Nuts			
leaf mulch			
Gums			
Resins			
Dyes			
Country liquor			
Leaf plates			
Honey			
Leaves			
Grass			
Fodder			
Thatch			
Rope			
Any other			
Medicinal herbs			
Tubers			

B Harvesting according to product condition:

B.1. Condition	Species	Change over time
Green trees		
Dry trees		
Dead trees		
B.2. Size of trees		
B 3. Branches		
Stem		
Shoot		

C. Limits on amount of product:

	Product			Change over time		
c 1 Time	Fuelwood	Fodder	Timber	Resin	Grass	Others
By season						
By days						
By years						
By several years						
c.2. Quantity						
Number per family						
Headloads per family						
Baskets per family						
c.3. By payment of cash						
By payment in kind						
c.4. Tools used						

Contents

I. SUMMARY

1. Title: **Alternatives for the Management of Biomass Resources on Common Lands in the Hill Districts of Uttar Pradesh, India**

2.	Principal Investigator(s)	:	Dr Veena Joshi and Mr M R Suresh
	Co-investigator(s)	:	Mr Dilip Singh and Mr Rakesh Prasad
	Address	:	Tata Energy Research Institute 9 Jor Bagh, New Delhi 110003
3.	Project Period	:	March 1, 1991 to February 28, 1993
4.	Total Budget	:	US $ 40,750
	Yearwise breakdown of costs	:	Year 1: US $ 20,750 Year 2: US $ 20,000
5.	Amount Received from WWF-US	:	US $ 25,000
6.	Support from other sources:		Tata Energy Research Institute, New Delhi US $ 15,750

7. Report Abstract

The major objective of this research was to study the management of community lands, in all its aspects, by local organizations in this case the *Van Panchayats*. *Van Panchayat* is an institutional form (a people's institution with legal backing) set up in 1931 as a response to social protest movements over reservation of forests by the Government.

The final narrative report contains the research work carried out from March 1991 to March 1993. Chapter 1 outlines the background, objectives and the scope of this study. In Chapter 2 the approach and the methodology adopted in the study is described. Chapter 3 focusses on the analysis of secondary data collected from the study districts. The organizational design of the *Van Panchayat* system, the role played by different departments concerned with the *Van Panchayats* are examined here. The financial management of *Van Panchayats* is discussed by exploring the sources of income to *Van Panchayats* and the use of revenue among different uses and also the subject of non-viable *Van Panchayats*. Chapter 4 describes the six case studies conducted with focus on different aspects. Chapter 5 synthesizes the findings of this study and formulates recommendations for follow up.

II. PROJECT DESCRIPTION

A. Original Objectives

The main objectives of the research project were:

a) To study the management of community land by the local organizations in all its aspects, production of fuelwood and other biomass, marketing the produce, financial and organizational structure related aspects.

b) To identify the benefits that flowed to the community in the vicinity of forests managed by the local organization.

c) To analyze the process of participation and identify patterns, if any.

B. Project Results

1. Introduction
2. Methodology
3. Analysis of secondary data
4. Case studies
5. Discussion and recommendations

   Glossary

   Bibliography and References

C. Local Involvement

The local involvement for undertaking this research was in the form of assistance from the Divisional Forest Officers of Almora and Pithoragarh forest divisions. With their help, the District Magistrate of Almora district was contacted. The Sub-divisional Magistrate and the Forest Panchayat Inspector of Almora Tehsil were linkpin in accessing data. For the field visits the Sarpanches and other villagers were involved. All the officials and the *Van Panchayat* representatives also co-operated actively in the study.

D. Training and Environment Education

The output produced in this project is likely to be used as a background material for training of forest officers/rural development officers concerned with the management of biomass resources.

E. Distribution of the Project Results/Recommendations

The project results will be disseminated to Divisional Forest Officers in Almora and Pithoragarh, the District Magistrates of Almora and Pithoragarh and to the project Advisors 1) Mr. A.N. Chaturvedi, Senior Fellow, Tata Energy Research

Institute, 2) **Mr.** B.N. Dwivedi, Senior Fellow, Tata Energy Research Institute, New Delhi **and** 3) Mr. L.P. Khare, Conservator of Forests, Government of Uttar Pradesh. Relevant material will also be distributed among Forest officials through training programmes.

F. **List of Works:** Not applicable

G. **List of Materials**: Not applicable

III. RECOMMENDED PROJECT FOLLOW-UP

1. Field level data on *Van Panchayats* are grossly inadequate at present. To overcome this gap in data, detailed field studies have to be undertaken. This can be compiled by students as part of their student projects or fieldwork segments at Master's level. The following institutions can be considered for support in this regard.
    1. Institute of Rural Management (IRMA) Post Box 60, Anand 388 001, Gujarat, India
       Contact Person: Prof. Tushaar Shah, Director
    2. Indian Institute of Forest Management, Bhopal, Madhya Pradesh, India.
       Contact Person: Mr. Hasurkar, Director

    We strongly feel that this measure is necessary owing to remoteness of many van Panchayats (information on which is not available even with officers concerned) and require extended field study.
2. We also propose, in collaboration with the UP Hill Development Department, to undertake an action research project with a view to strengthening the management of *Van Panchayats*. The components would include direct community organization efforts in selected *Van Panchayats* and a series of training programmes for district level staff. We solicit suggestions on possible donor agencies who can be approached for support.
3. To conduct training programmes at different levels for officials involved in the management of *Van Panchayats*. At the moment, their perceptions about the issues are inadequate and not sufficient to handle problems.
4. To explore possibilities of redesigning the organizational arrangements in the management of *Van Panchayats*. One possibility could be an apex body of *Van panchayats* with adequate legal backing

IV. P

V. PERSONAL EVAL

VI. REVIEW OF THE REPORT

1. Prof. Madhav Gadgil, Centre for Ecological Sciences, Indian Institute of Sciences, Bangalore 560 012, India
2. Prof. Katar Singh, Institute of Rural Management, Post Box 60, Anand 388 001, India
3. Mr. A.N. Chaturvedi, Senior Fellow, Tata Energy Research Institute, 9 Jor Bagh, New Delhi 110 003, India
4. Mr. L.P. Khare, Conservator of Forests, 13, Lajpat Rai Marg, Lucknow Uttar Pradesh, India

VII. PHOTOGRAPHIC REQUIREMENTS: Photographs submitted.

VIII. APPENDICES: Questionnaires

IV. PR

V. PE

VI. RE

1. Pro an Institute of
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2. Pro x 60,
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3. Mr. Institute, 9 Jor
Bag

4. Mr. arg, Lucknow
Utt

VII. PH itted.

VIII. AP